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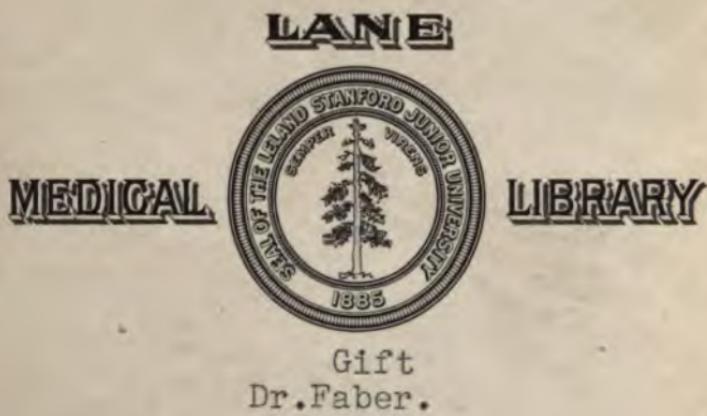
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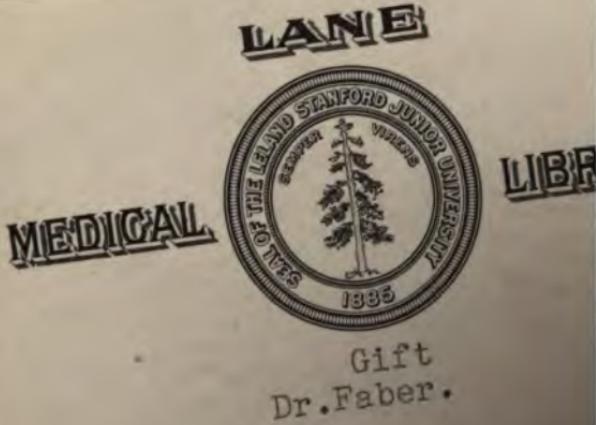
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The healthy baby : the care and feeding



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THE HEALTHY BABY



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THE HEALTHY BABY

THE CARE AND FEEDING OF INFANTS
IN SICKNESS AND IN HEALTH

BY

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WORLD'S GREATEST

—
1922

Dedication

TO ALL CHILDREN AND ESPECIALLY
TO MY OWN CHILDREN
ALICE, NANCY, AND SALLY
WHO HAVE BEEN THE CHIEF INSPIRATION
IN MY STUDY OF CHILD WELFARE
THIS BOOK IS DEDICATED

use herself. She experiments first with one and then with another until she ruins her baby's digestion. I describe the simplest kinds of milk, water, and sugar mixtures, and if these do not agree with the baby, I would most emphatically recommend seeking the physician's help. Feeding bottle babies is one of the most difficult things we have to deal with.

ROGER H. DENNETT.

125 EAST 39TH STREET,
NEW YORK.

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INTRODUCTORY

THE average mother has a keen sense of duty toward her children, and it is only her lack of knowledge, when this duty is first thrust upon her, that prevents her from bringing up the baby in model fashion. In these days of artificial living, it requires constant watchfulness and hard work and devotion to carry the child through infancy and childhood in such a manner that he may reach adult life sound in body and in mind. The more normal the individual the better chance he has to succeed in later life. The vast majority of abnormalities start in the early years. The baby whose digestion is ruined by wrong feeding may grow up to be a dyspeptic adult, who can neither do his share of work in the world nor receive his share of pleasure out of it. The child whose adenoids are neglected not only may have colds and catarrh for the rest of his life, but he is less alert mentally and consequently backward in his studies. Lack of suc-

The Duties
of Parent-
hood.

Success in
Later Life
dependent
upon a Nor-
mal Start.

cess in life is due, in many cases, to physical defects that might have been avoided by an intelligent bringing up.

The bowels, the skin, the hair, the teeth, the habits, and all the functions, therefore, should be carefully studied.

We should send our children out in life equipped with the right kind of body, as well as the right kind of mind. I realize fully that a mother has other duties than these toward her children. However, the mother who takes care of her own children will find it less work to do so in the proper modern way than did the mother of former generations, who carried the baby about in her arms while at work or rocked the cradle while she sewed. The mother who employs a nurse should devote some of her time to the baby and should supervise all its care. To do this, she must know how. It is bad policy to have a poor nurse and a good cook; if a choice must be made between the two, the nurse should have the superior intelligence.

There are constantly being brought to me children of all ages who are thin and flabby, or who perhaps cry a good deal, or have one or more signs of ill health which the mother either has not observed or, observing, has thought were

either common to all babies, or peculiar to her own. It would, therefore, be well first to list the things that denote good health, and later to consider each in detail. Every well child of any age should : —

Signs of
Health.

- (1) Show progressive development of body and mind.
- (2) Gain constantly in weight, and have solid flesh and well-shaped bones.
- (3) Have the proper amount of restful sleep.
- (4) Cry but little.
- (5) Have a good appetite.
- (6) Have well-regulated bowels.
- (7) Have no vomiting or gas.
- (8) Have a clear skin and good color.

If the baby does not come up to this standard, we may know that something is wrong, and we must set ourselves the task of finding out what that thing is. It is much easier to prevent an illness than it is to cure one. With this fact in mind this book is written.



PART I

**DEVELOPMENT AND THE BODILY
FUNCTIONS**

THE HEALTHY BABY

THE CARE AND FEEDING OF INFANTS IN SICKNESS AND IN HEALTH

DEVELOPMENT OF BODY AND MIND

THE gradual awakening of the various senses and the progressive development of the common acts and functions of life have been the same, generation after generation, since civilization began. Each baby is much like his predecessor, although we usually believe *our* baby to be a little bit superior to the average. Averages are hard to strike, but it is important to have a standard so that we may be warned early of any deviation from the normal. We can correct such deviations far more easily in the beginning. At the same time no "forcing" should be used to make baby come up to our standard, and the nervous mother should not be in a constant state of worry for fear her baby is backward or deficient.

Importance
of having a
Normal
Standard.

The first three months of his life, baby doesn't notice much of anything. Loud

Natural Development
during the
First Nine
Months.

noises disturb him, so we know that he hears. A strong light makes him blink, or close his eyes, so we know that he has some sight; in fact, often his eyes will follow a light the second or third week. He is three or four months old before he discovers his hands and begins to play with them. About this time he learns to smile when we chuck him under the chin, or make clicking noises with our lips in the familiar manner in which we are apt to address him. He can say *goo! goo!* and make delightful little noises with his throat, which grandma declares are intended for her name. He holds his head erect at four months, and sits alone with a pillow at his back at six months; at this age also he knows his mother and is apt to dislike strangers. He holds things in his hands and puts them to his mouth, and now, most wonderful of all, the first tooth may appear. At eight or nine months he sits upon the floor alone and possibly learns to creep. Some babies never creep, however.

Up to this time there is not much danger of urging him too fast. Of course, it is not well to play with him too much nor to allow

him to become excited. Mother,—and Father, too,—wants to enjoy him while he is so irresistible. However, he should not be made to show off and do tricks upon every occasion, and he should not be trotted out to be played with and handed about for the admiration of loving friends. He should not be taken to parties or calling, nor do unnecessary traveling.

The Danger
of "Showing
the Baby
Off."

When it comes to walking, he must bide his own time. He will walk when his bones and muscles are strong enough, and if he has been properly fed, we need not fear bowlegs or knock-knee when he starts to walk of his own accord, whatever the age. As a matter of fact, the age of walking is a very variable one. At nine or ten months baby first realizes that his feet are meant to stand upon, and if at a year he is able to walk with support, he is doing well. At eighteen months if he does not walk by himself, he may be considered backward and the cause should be looked into. Walking is, of course, a mental as well as physical process. Baby is bound to have some tumbles, but he learns to take them philosophi-

The Age of
Walking.

cally. In order that his walking may be unhampered, his diapers should be discarded for drawers soon after he is a year old, for if he has been properly trained, he will not need them. The carriage of the body should be erect, and as the child grows older, faulty postures while standing or sitting should be guarded against.

**When Baby
Learns to
Talk.**

The power of speech is baby's next acquisition. At a year he can say *Mama* and *Papa*. Gradually he adds a few more proper nouns to his vocabulary, then the names of familiar objects; laboriously he joins these with verbs, and finally, at two years, he has learned to express thoughts in simple language. Children who talk readily should not be stimulated too much.

**Delayed
Talking.**

Some children are very late in talking, particularly if they are not encouraged. They make signs or point to the object of their desires, and find it easier than learning to talk. This is pure indolence on their part and incidentally on the part of the mother. Adenoids are a frequent cause of delayed talking. If a child does not talk at two or two and a half years of age, deafness or men-

tal deficiency should at least be considered as a possible cause of his backwardness.

Lisping, stuttering, and defective speech of all sorts, such as using one consonant for the other, should be nipped in the bud. Such defects are overcome by constantly requiring the child to pronounce his words correctly. He is made to repeat the word each time he makes his mistake, which, of course, takes a lot of time and patience. I occasionally see children of four or five years of age who talk so badly that no one but the parents can understand what they say. Some children with defective speech need a special training, as well as an examination of the various organs of speech to make sure that these are not defective. In most of the children in whom I notice defective speech, I find that laziness is the reason for it.

The mental development of the child goes forward by leaps and bounds. Every day he learns something new, and his thoughts should be guided in the proper channels. He should be allowed all the independence of thought and action that is compatible with good discipline, in order that he may ac-

Defective
Speech.

Stimulating the Child's Mental Activity.

quire originality and initiative. It is most difficult to find the mean between constant harassing and scolding and "don'ts," and spoiling the child by allowing him to have his own way in all things. Lest he become a laggard in the world, his time should always be occupied, particularly at four or five years of age when the simple entertainments of babyhood cease to interest him. He should, however, be taught to entertain himself some hours of the day.

Development of the Body.

While the mind has been developing, the body should have kept pace with it. Not only has the weight been steadily increasing, but the body has been lengthening out. It is of less importance to keep track of the height, but a table will be appended for reference. The extremities should grow in proportion to the trunk and be well shaped. The head should be round and symmetrical. Any one-sidedness of the head usually denotes an inclination to soft bones or faulty posture—that is, the baby is allowed to lie on one side so much that his head is flattened on the side that presses the pillow. Especial care should be taken to lay the infant first on

one side then upon the other. The fontanel, or bony opening in the top of the head, is worthy of the mother's observation. Widely open at birth, it begins to grow smaller during the end of the first year and is entirely closed at eighteen months or two years.

The teeth should come along on schedule time, be well formed, and not become carious. (See "Teeth.") The chest should be broad and symmetrical. The abdomen is naturally protuberant in early childhood, especially if the child is fat. It is firm and hard like the other muscles of the body. When the baby is sick, mothers often discover for the first time that the abdomen becomes hard while he is crying. It should be so, but the observation is made for the first time because she is worried. If the navel protrudes while the child is crying, it should be attended to at once.

Baby has come into this world a very small bit of humanity. Every week he must grow if he wants to be a man. Not only does he grow in length, but it is his nature to be round and plump, so that he must work hard if he expects to keep fat while he is growing tall.

The Fon-tanel.

The Abdo-men.

Babies
should be
Fat.

How much
should the
Baby
Weigh?

How many times baby's mother has said to me, "Baby is not fat, but he is like his father in that." And then I explain that all *well* babies are fat. When baby is born, he weighs about seven pounds. He loses a few ounces the first few days and then he starts upon his journey. Each week he gains six ounces, sometimes more, sometimes less, until he is six months old, when he has doubled his birth weight; after that, he gains more slowly, say four ounces a week until, when he is a year old, he has trebled his birth weight. Then he slows down still more, gaining about five pounds each year until he is eight or nine years old. Of course, even well babies can't keep to the schedule all the time. If baby falls by the wayside and makes no gain for a week or two something is wrong. The mothers of my little patients often ask why such close attention need be paid to the baby's weight. It is because babies must keep growing all the time if they are to be healthy babies and one who is not gaining in weight is not growing and thriving. The adult who has grown to his full height does not necessarily have to gain

to keep in good health, but not so with the babe, who must make steady progress always.

Even a novice can readily see the reason for keeping watch of the baby's weight. It

Keeping
Track of
the Weight.

is the chief indicator of his normal progress. It is not well to weigh the healthy baby more than once a week, lest we become worried unnecessarily. A chart or other record of weight may be kept, but we must avoid over-feeding just to make a good showing on the chart. The baby is stripped before his bath and before a feeding and put upon the scales.

The best scales are the ordinary grocer's scales with the bar divided in ounces, along

The Best
Scales to
Use.

which slides the hanging weights, and provided with additional weights up to twenty-five pounds. There should be a flat platform at one end, upon which is placed the scoop that comes with the scales, or a basket made especially for weighing babies, and purchasable at any department or hardware store. The dial or spring scales, such as are ordinarily sold for weighing babies, are useless. When the baby kicks, the dial bobs about and makes it difficult to get an accurate reading.

After the first year and especially during the second year, there should be a weighing once a month to enable us to keep an eye on the nutrition.

SLEEP

The Early
Months.

"Shall we
Awaken
him for his
Food?"

It has been truly said that a baby's early life is made up of sleeping and eating. As soon as the excitement of his entrance into this world subsides, he promptly goes to sleep. When hunger awakens him, he takes his food and as soon as he has eaten enough, he goes to sleep again. This monotonous existence is interrupted usually twice a day, once when he has his bath and once when he indulges in a little exercise, say of an hour or so, which he takes in the form of crying, and to which he is entitled. Thus he sleeps twenty-two hours out of every twenty-four during the first two or three months. And now comes the question, Shall we awaken him for his food?

Regularity in feeding leads to regular habits of sleep, so baby must be fed exactly at the same time every day. Establish regular habits by waking the baby at the feeding time and the sleep will take care of itself if he is put down as soon as the feeding is finished.

The healthy, well-fed babe, when the food is right, awakens after three hours sleep. Occasionally he awakens in two and one half, or even two hours, when he should be persuaded to wait another hour, or half hour, as a matter of discipline in regularity. If this occurs too often, we may assume that his food is insufficient either in quantity or strength, and the remedy is to increase the quantity or strength.

Insufficiency of food is best discovered by the scales; failure to make the proper gain in weight is indicative of underfeeding. Under such circumstances, the breast-fed baby must have bottle feedings in addition to the breast milk if the mother's milk cannot be improved. However, occasionally we see babies turn night into day by awakening at two or three-hour intervals during the night and sleeping from four to six hours without eating in the daytime. These babies must be awakened for their food in the daytime at regular intervals.

After the third month, baby begins to take more interest in life, and stays awake look-

The Question of Naps

ing at his hands or watching his neighbors a little longer each day, until at six months he sleeps twelve hours at night, *from six to six*, and has a two-hour nap both in the morning and in the afternoon. If he sleeps too late in the afternoon, he won't go to sleep promptly at six, as he should, so make the afternoon nap an early one, awaking him at three. During the first half of the second year we find he won't take two naps a day, or if he does, he won't sleep well at night, so we give up one or the other, preferably the afternoon nap. One nap a day is continued until the fourth or fifth year. The naps, especially during the early months, may be taken out of doors in the baby carriage or on the piazza or even on the fire escape when this is the best we can afford. It seems unnecessary to say that sleeping out of doors is not harmful.

Sleeping
Out of
Doors.

Amount of
Sleep
necessary
for Growing
Children.

And now we must be firm with the rule of to bed at six, for many temptations come up to prevent it. Twelve hours sleep is the right of every child until seven years of age, ten hours until ten or twelve years. Many a pale, washed-out looking child of this age

owes his ill health to lack of sleep. However, the older child usually regulates the amount of sleep himself if he has half a chance. Mothers who complain that their children sleep late in the morning allow them to stay up late at night. Oftentimes the child who awakens early in the morning has had too long a nap in the daytime. There is no excuse for any child arousing the entire household at four or five in the morning, if the hours are carefully regulated. Habit is an important factor in sleep. Baby mustn't be allowed to go to sleep with the nipple in his mouth. He should finish his nursing and then be put in his own bed, so that he may acquire the habit of going to sleep of his own accord. He should never be rocked to sleep, or sleep in a lighted room, or have any one remain with him while he is going to sleep. The mother should not form the habit of going into his room whenever he cries. I have known mothers whose custom it was to spend the whole evening listening for a sound from the nursery. Baby cries and mother runs to him and stays with him until he goes to sleep again. This occurs

Babies who
Sleep
Poorly.

more and more frequently until the child has become a restless sleeper and often gets so he awakens every hour or two throughout the night. The remedy is to stay out of the baby's room after he is once made comfortable for the night, and after we are sure that nothing is wrong. If he has already formed such a habit, we must let him "cry it out" for a few nights and he will soon understand that he must sleep after he has been put to bed. Another bad habit is established when we tiptoe about the house and speak in whispers lest we wake the baby. It is far better for him to learn to sleep through the ordinary noises that legitimately exist in the household than it is to accustom him to absolute quiet, for then even a slight noise awakens him. At the same time the adult members of the family rarely enjoy a normal evening. Still another bad habit is established when baby is pushed about in the baby carriage in order to get him to sleep. This is, of course, the same as rocking him to sleep. Baby should sleep alone, in fact a child of any age ought to have a separate bed where it is possible. It is best to have a

Every
Child
should
Sleep
Alone.

firm hair mattress and no pillow. In the early months he should be laid first upon one side then upon the other.

The windows should be wide open top and bottom, winter and summer, after the first few weeks, although it is well to avoid a direct draught. Warm night clothing, such as I will describe when I speak of "Clothing," is, of course, necessary.

Fresh Air at Night.

At any age if the sleep is not restful and continuous, something is wrong and the physician should be consulted.

CRYING

CAN you tell what is the matter with baby when he cries? Usually a children's specialist can, but that is something I cannot impart to you. When you have heard him cry many times, you will know. There is the *fretful cry* of the baby who is discontented with his lot. He is wet, or he is hot, or uncomfortably dressed, or hungry. There is the *angry cry*, the outburst of disappointment when he finds this world is not the pleasant place he thought it to be, and which is solaced by attention. There is the *cry*

The Meaning of the Baby's Cry.

of pain, the unceasing cry which no amount of attention or distraction can alleviate. There is the *hoarse cry* of the child who has cried a great deal, or the *throaty cry* of the child suffering with some throat affection. There is the *low moaning cry* of the very sick child, which breaks your heart to hear. There is even the cry indicative of certain diseases, such as the "*cephalic cry*" of meningitis and other brain conditions, and the wild *night cry* with which the child with bone tuberculosis starts out of his sleep.

Normal
Amount of
Crying.

In the early months a certain amount of crying is good for a baby; it exercises his lungs and muscles and helps the circulation. As David Harum says, "Some fleas is good for a dog. It keeps him from broodin' on bein' a dog." However, one or two hours of crying a day is sufficient. When there is much more than that, the cause should be investigated.

Hunger or
Colic?

Perhaps the greatest difficulty is to distinguish between the cry caused by hunger and that caused by colic, or indigestion. The simplest indicators are the stools, the amount of gas expelled, and the vomiting.

If the stools are a good yellow color, smooth and well digested, containing no mucus nor curds, and if there is no vomiting and no gas expelled, we may suspect that hunger rather than colic is the cause of the baby's discomfort. Again come the scales to help us out, for if the baby has been carefully weighed and has gained six or eight ounces each week, we know with certainty that he is getting enough food. If he has gained not at all or only two or three ounces a week he needs more or stronger food or, better still, expert advice. If he is gaining more than eight or ten ounces a week and still cries more than his allotted time (two or three hours a day) he is probably suffering from colic due to over-feeding. If such a baby is breast-fed he should be fed only once in four hours; if he is bottle-fed the food is too strong, or he is fed too often or too much at a time.

Gas or wind does not always cause pain, and crying. Many a happy, healthy baby passes a lot of gas from the bowels and never cries at all, but sleeps peacefully and gains steadily in weight. On the other hand the

hungry baby whose food is insufficient may have gas with the crying and the mother attributes all of the trouble to colic. Hunger is more apt to cause crying just before the feeding is due, the length of time varying with the degree of hunger. A babe very much underfed may cry most of the time, because his hunger is never satisfied even immediately after a feeding. And a large quantity of a very weak food will not still the pangs of hunger.

The Habit
of Crying
Causes and
Cures

As the baby grows older he should not be allowed to get in the habit of crying if he is well. Some mothers have become so bound to routine that they do not change it as baby grows older, and he cries more and more as the system appeals to him less and less. For instance, one mother had adopted the routine of putting her baby out of doors in the carriage early in the morning and of leaving him by himself, and going to him only when it was time to feed or change him. This was a very proper routine for the first months, but when he was seven months of age, she came to me to find out why he cried so much. It was, of course, because he was getting too old

to sleep all day and all night, too. She was making a fussy baby of him through constant discontent and crying. Older children also form the habit of crying at the slightest provocation. They need tactful treatment to get them out of it. However, habitual crying is far more frequently due to errors in diet in a child of any age than to all the other causes put together. Next in the order of frequency comes the spoiled child, who needs different parents more than anything else.

Earache and the open safety pin are causes so much dwelt upon that even the father can make that diagnosis.

APPETITE

BABY is a hungry creature. If he is not, something is wrong. Like a horse, he will always eat. If he awakens before his feeding time, his first thought is to eat. If he awakens at night, he cries until he is fed. When he is sick and fretful, he nurses still oftener (if you let him). In his early weeks it is the only form of recreation he has. It is good for baby to be hungry, but, as with the horse, our higher intelligence must, to a

Poor
Appetite
in Infants.

certain extent, regulate his feeding times and the food itself so that his appetite will remain good. If a horse gets into the oat bin, he eats until he is sick. If baby is allowed to eat whenever he cries, he eats until he is sick, finally loosing his appetite. When an infant refuses his bottle or the breast, we know (unless he has some definite illness) that we have been feeding him too often or too much, or that some element of the food is too strong; weaken the food or lengthen the intervals until he is hungry. Nothing will ruin baby's appetite or digestion more quickly than nursing three or four times during the night, and frequently breast-fed children are allowed to lie at the breast all night.

**The Sick
Babies'
Appetites.**

Infants who are taken acutely ill usually stop eating at once of their own accord. They show greater wisdom than does the mother who tries to force the child to eat when his stomach is in no condition to digest food. This voluntary starvation is the very best thing at the beginning of any illness, especially where there is fever. Sick children are often thirsty, as well as restless,

so they sometimes nurse or drink milk to quench their thirst when their digestion will not take care of any nourishment.

Of course, some infants are too hungry. They cry as soon as the bottle or breast is taken away, and often keep it up until the next feeding. This is because the food is insufficient, or at any rate because there is something wrong with it. Many a mother has mistaken hunger for colic.

Older children also should be hungry when it is time to eat. I think, perhaps, I have more difficulty with their appetites than I do with the babies', for we have to control both mother and child after infancy, while the baby always has to do as the mother wills. Sweets and eating between meals are the most frequent causes of lack of appetite in older children, and I am more and more firmly convinced that the minimum quantity of sweets is best for the child. Children with very poor appetites should be denied sweets altogether, for a time at least. Eating between meals is absolutely prohibited with the exception of certain fruits. Like the baby, the older child may

Loss of
Appetite
in Older
Children.

have a poor appetite because his diet is wrong.

A hearty child has no right to be finical about his eating. He should eat whatever is put before him, and be glad to, provided it is the proper food. A certain amount of firmness on the part of the mother is all that is necessary. If he refuses the food he should eat, let him go hungry until the next meal. Why should we neglect to educate our children to eat the proper food and teach them such accomplishments as German and music?

Variety
and Quan-
tity of
Food.

Too much monotony in the food of course spoils the relish; the greediness with which a child will devour a different kind of bread is pathetic.

"Can a child eat too much sensible food?" is a question I sometimes hear. Occasionally I have seen children who had to have the amount of good food limited, but usually a child who eats too much in bulk has some element of the food in insufficient quantity.

Many mothers will be surprised to hear that a child may drink too much milk. Most mothers are imbued with the idea that if their children will drink milk, they are well fed.

Milk is a good food, but, after the first year, must not be given to the exclusion of other foods. Time and time again I have children brought to me who do not eat because they drink one to two quarts of milk a day. It is often necessary to take away the milk temporarily, especially during the second year, in order to get the child hungry enough to eat other things. One quart of milk a day is advisable throughout childhood, provided that other proper foods are eaten with relish.

Value of
Milk.

Diet both in infants and children is a subject which I will take up by itself.

VOMITING

MEDICALLY there is a distinction between *vomiting* and *regurgitation*, but it is difficult to tell where one begins and the other leaves off. It is a fact, however, that a perfectly well baby overflows just after he has nursed, and this is supposed to be regurgitation. It is simply because he has taken a little more than his stomach can hold, and the surplus comes up. Children vomit very easily. This is a fortunate provision of nature, because they have not the discretion about

Persistent
Vomiting
of Infants.

eating that adults are supposed to have. However, nursing babies should not vomit much after the feeding, and it is particularly significant of ill health if the milk makes its appearance continuously or just before another feeding is due. Perhaps baby is nursing too often or too many times at night, or the milk comes too fast, or perhaps he is jostled about too much after nursing. When the stomach is full, baby should be kept quiet, for if he is trotted about or turned upside down, up comes the food. Tight belly-bands are also a frequent cause of vomiting; in fact, any detail of baby's daily existence should be looked into when the vomiting is persistent. These things are as true of the bottle-fed baby as of the breast-fed. With the former, however, the food is the chief source of the trouble, when baby vomits habitually.

Bottle-fed babies should always be fed in the arms and never when lying down, nor should they be left alone with the bottle. If there is much vomiting, hold the baby in a fairly upright position while nursing, using a nipple which has a hole of the proper size

to allow the food to be taken in fifteen or twenty minutes. After the food has been taken he should be held over the shoulder in an upright position and patted gently on the back until the air that he has swallowed has come up, even if a mouthful of food comes with it, then put him down to go to sleep by himself.

Do not urge the breast-fed baby to take more food than he wants. Although a twenty-minute nursing is the average, many infants gain properly in weight (six or eight ounces a week) on less than that, even five or ten minutes being enough for some babies. Breast-fed babies who vomit but are gaining rapidly should be fed only once in four hours.

Sudden or acute vomiting in the previously healthy child means the beginning of almost anything. All acute illnesses of childhood—pneumonia, scarlet fever, or what not—may begin with vomiting. If I wanted to take a chance, however, I should say it was stomach upset—the child had overloaded his stomach or eaten some bad food, for this is the cause in the vast majority of children with acute vomiting. It is usu-

Sudden or
Acute
Vomiting

ally accompanied by fever, sometimes by diarrhea.

"Stomach Attacks"
of Older
Children.

When children have "stomach attacks" at intervals of a month or two, there will be found some error in their diet to account for it and that error should be sought and remedied. These attacks should not be considered unavoidable incidents in a child's life. How often do I hear a mother say, "John has been perfectly well all his life, but, of course, he has one of his vomiting spells every once in a while."

The treatment of acute vomiting is simple. Immediately stop all food, even the breast (and in older children, water also), where it is persistently rejected.

An enema of plain luke-warm water should be given at once, followed in half an hour by a dose of castor oil—one teaspoonful under three months of age, two teaspoonsfuls up to six months, one tablespoonful over six months of age and children older than a year may have up to two tablespoonsfuls. If it is vomited, repeat the dose in one hour. If the bowels have not moved in three hours, repeat the dose.

One level teaspoonful of good cooking soda in one glassful of water, to be sipped at intervals, is helpful in the vomiting of older children. If the child continues to vomit, he needs the physician's aid.

Bile in the vomitus (a watery fluid stained green or yellow) always inspires the mother with fear. It simply means that the food has all been cleared out of the stomach and that the vomiting has continued until the stomach has become irritable, the bile flowing back into the stomach. Not until the vomiting has ceased entirely for a number of hours and water is retained, should food be given. Bottle babies should first be started on a very weak food. Older children may have two or three tablespoonfuls of hot clear broth, free of fat, or bouillon, to begin with, or malted milk (made with water not milk) well salted and given hot. Give only half a teacupful at first made with two teaspoonfuls of malted milk to the half cup of water. If this is not vomited, repeat in two hours, and later increase the quantity to a teacupful at a time. Then a piece of hard, unbuttered toast, or a Uneeda Biscuit.

THE BOWELS

BABY'S bowels have to be watched from the time he is a helpless infant until he is old enough to have a care of them himself. He must grow up with the knowledge that his bowels perform one of the most important functions of the body and it is a part of his training to learn to take care of them.

Normal
Move-
ments of
the Breast-
fed Baby.

During the first three or four days the movements are black and sticky, two to four in number. Then, as the food begins to be taken and digested, they become yellow and more solid and should be one to four in number daily. At this time they occasionally remain scanty and even become green and thin for a week or so. This is because the milk is not sufficient to make good-sized solid stools, although the stools may be frequent. Usually the milk increases by the end of the second week, so there is no occasion to worry. And now the stools change according to the food baby is taking. If he is breast-fed, they should become light yellow, about the consistency of mush, and two to four a day. A few weeks later one a day will

answer. I would caution mothers not to be too much worried about the number of the breast-fed baby's stools when he is sleeping well and everything else seems right, especially if he gains in weight.

The bottle-fed baby should be under the care of the physician during the first weeks, as the great majority of sick babies owe their ill health to the poor start they get in the early weeks. However, if properly fed, the bowels of the bottle-fed baby are not apt to move as often as those of the breast-fed child. One stool a day is sufficient, and even if there is only one stool in thirty-six hours, it is better to let them go that length of time rather than to irritate the bowels daily with cathartics and enemas and suppositories. The food can be changed gradually so that the bowels will move of their own accord every day. The bottle-fed baby also has a larger and more bulky stool, lighter in color, and about the consistency of a firm ointment or cold cream, so that it holds its shape in the diaper. It should be smooth and uniform. Any curds (white lumps like cheese) or mucus (glistening, slimy, like phlegm) show that

The
Bottle-fed
Baby's
Stools.

the food is not being well digested in the bowels, where most of the infant's digestion takes place. Usually this is a sign of diarrhea.

Training
the Child to
have Regu-
lar Habits.

When baby reaches the age of four months, if he is strong and well, we begin to train him to have stools at regular intervals. It is surprising how soon the little things learn to use the vessel. At stated times each day (once or twice, according to his previous habits) he is placed upon a small infant's chamber, which is comfortable if it exactly fits the buttocks. This may be held in the lap in order to support his back. He soon learns to grunt and strain whenever he is placed upon it, and the habit is quickly established. When he gets strong enough to sit up by himself, he must have a low comfortable chair which allows the feet to rest upon the floor. The chair should have a rubber ring which can be taken off and cleaned. This may be bought at any children's store. It is a most pernicious habit to allow the adult chamber to be used, because its large size tends to let the organs become displaced.

And finally, as he grows still older and has

three meals a day, he must learn that he must go to stool at the same time each day (preferably right after breakfast) and stay there until his bowels have moved. In this way a habit is established which is carried through life.

Constipation has many causes. In breast-fed children it is usually due to constipation of the mother or to the mother's diet or to irregular nursing. These things we will consider under "Breast Feeding." If the constipation continues after mother's diet is corrected and her bowels regulated, it is far wiser to consult a physician than to try sweet oil and cream and various other expedients which require skilled supervision. It often happens, if oil is used, that it is just the wrong thing if the fault lies in a milk already too rich in fat. Constipated breast-fed babies who do not gain properly in weight must have more food. If the breast milk cannot be increased in quantity or quality bottle feedings must be given besides the breast milk.

The bottle-fed baby is constipated also

Constipa-
tion in
Breast-fed
Infants.

Constipa-
tion in
Bottle-fed
Infants.

because of his food. The most usual errors of diet are:—

1. Too high a fat (when top milk or cream is used.)
2. Food of insufficient quantity or strength (scanty stools—failure to gain in weight).
3. Not enough sugar.
4. Weak, sickly babies are often constipated because they have not enough strength and muscular tone to have an evacuation.

Cathartics. One can readily see how wrong it is to give cathartics every day without remedying the cause, when the child's nutrition and growth may suffer from the error in diet which has caused the constipation. Having decided which of the above four causes gives rise to the constipation, changes in the food should be made accordingly. After six months of age, the fruit juices such as I describe in the diet list, are useful.

Causes of Constipation in Older Children.

Older children are constipated because:—

1. They have not been taught to go regularly to stool, and they are too busy at play when they have the inclination to go.
2. The toilet arrangements are not comfortable. Often the feet hang dangling while

they sit upon the adult water-closet, or the seat is too large.

3. During the second and third years particularly, too much milk is often given. It is sometimes necessary to take milk out of the diet temporarily if the constipation stubbornly resists dietetic treatment.

4. The food may be too concentrated. The child has not learned to like vegetables or the coarser breads and cereals, which should be given in large quantities to constipated children. A diet list for constipated children will be given later.

5. Fruits are not given in sufficient quantities, for they are especially valuable additions to the diet. By this I do not mean a little orange juice at breakfast. Give the child all the fruit he will eat three times a day, preferably between meals, until the constipation is overcome.

6. There may rarely be some abnormal condition about the rectum, such as a fissure, hemorrhoids, polypus, or prolapse, which needs medical attention.

Massage of the abdomen is a very valuable Massage adjunct in the treatment of constipation;

it consists in very gently stroking the abdomen with the tips of the fingers, first upward on the right side, then across from right to left in the upper part of the abdomen, then downward on the left side. This is followed by a general light and careful kneading of the whole abdomen. Do not use too much strength. Never massage the abdomen immediately after feeding.

**Principal
Causes of
Diarrhea.**

Diarrhea is more to be dreaded in infancy than almost any other illness. In the large cities, during the summer months, more babies die of diarrhea than of scarlet fever, diphtheria, typhoid fever, measles, and whooping cough combined. Diarrhea, therefore, should be treated in the beginning. In infancy there are but two principal causes of diarrhea—unclean milk and the wrong food.

**Diarrhea
from
Unclean
Milk.**

Unclean milk may come from improperly managed dairies or from contamination in the home between the time it is delivered and the time it is consumed by the baby. Fortunately the best milk in the world may be had in New York City and in all of the large American cities where certified milk

is available. It is delivered in a clean bottle packed in ice, and if kept cold and clean until the baby gets it, he will not be poisoned by it. Cleanliness, rapid cooling, and keeping it cool is the whole secret of good milk. This can be accomplished on the farm when certified milk is not within our reach. Babies' bottles and nipples and everything the milk comes in contact with should be kept scrupulously clean.

Improper feeding even of clean milk often results in diarrhea. Diarrhea and vomiting are conservative processes of nature which enable the baby to get rid of any food that he is unable to digest or which is poisoning him. Overfeeding is perhaps the most frequent kind of improper feeding. It is as fascinating as a game to watch the weight of a baby go up each week. Therefore we must have a care not to increase the strength of the food too fast in our anxiety to increase the weight. Too frequent feedings also cause diarrhea. During the hot weather a baby will not digest as much food as he will in the winter months. He should be kept hungry and perhaps it will be necessary to cut down

Diarrhea
from Im-
proper
Feeding.

the strength of the food while the weather is very hot. The baby will also be less inclined to have diarrhea if he is not too warmly clothed and if he has plenty of fresh air.

The
Dreaded
"Second
Summer."

The "second summer" is a most dreaded period in the minds of most mothers — and why? It is because baby has reached the age when he wants to eat everything he sees, and mother allows him to do so or doesn't take pains to prevent him, that he gets up a diarrhea. The second summer should be, however, and is the healthiest part of the child's life, provided his diet is right. To be sure he may be cutting some teeth at this time, but if he is kept cool and comfortable and is properly fed, he is not very liable to a diarrhea from teething. I must admit that he requires more care when he is cutting his teeth in the summer, and that there are children who have a tendency toward loose bowels when the teeth are coming through, but careful supervision will tend to avoid much difficulty.

Treatment
of Acute
Diarrhea.

All I have said has been in the way of prevention of diarrhea which is by far the most

important side of the subject. What about the child who has actually started with diarrhea? The moment the disorder begins is the time to start treatment. Stop all milk or food of any kind at once. Even the breast should be discontinued for at least twelve hours in nursing babies. Give a cathartic at once, preferably castor oil, of which a large dose is better than a small one. During the first few months a teaspoonful will be sufficient, but after that a tablespoonful is required to do the work well. If the castor oil is vomited, repeat the dose in an hour.

Do not give anything else by mouth but water, and water should be limited or denied if there is much vomiting; otherwise, it should be given plentifully. If the child has much fever or if the diarrhea has not stopped in twelve to twenty-four hours, a physician's services will be required. Many a long illness has been prevented by this energetic treatment in the beginning.

PART II

HYGIENE AND TRAINING

CLOTHING

THERE is one invariable rule in dressing a baby — always make him comfortable. There is no more necessity of wrapping him round and round with pinning blankets than there is of binding his feet as the Japanese do. We have been hampered long enough in our dress by custom and tradition, but fortunately we are now dressing our babies in a sensible manner. When the baby is entirely dressed, he has on a belly-band, a shirt, a flannel skirt, a soft sheer underskirt, a simple dress or slip, socks, and diapers.

The Sen-sibly
Dressed
Baby.

The belly-band serves two purposes — it supports the abdomen in the very young infant and it protects the bowels from changes in temperature. Improperly used, it is a source of discomfort and even positive harm. As soon as the babe becomes very active, the pinned belly-band works up under the arms where it restricts the breathing rather than protects the abdomen. The belly-band should be made of an unhemmed strip of soft white flannel, eight inches wide and eighteen inches long, so that it goes around

The Belly-band.

the abdomen once. It may be pinned firmly, but not too tightly, with five small safety pins. It is not necessary to sew it on the child as is the fad at the present time. It should be discarded at three weeks of age and a loose knitted band with shoulder straps substituted for it. The knitted band should be pinned to the diapers at the bottom. The lightest weight silk and wool is the best for winter and the thinnest cotton gauze for summer wear.

**The Baby's
Shirt.**

The shirt, coming next to the baby's delicate skin, should be of soft texture. The lightest weight silk and wool or fairly heavy cotton is preferable in winter and the thinnest gauze cotton shirt may be used in summer. It should fit the body closely enough to eliminate wrinkles, which are a source of discomfort in any article of baby's clothing. Heavy rough woolen underclothes are unnecessary and positively harmful at any age.

**The
Flannel
Skirt.**

The flannel skirt, which nowadays takes the place of the uncomfortable pinning blanket, is made with straps which pin over the shoulders (one back and front for each shoulder). It should be made of soft white flannel

and be twenty-six inches long. The white skirt which goes over this is not a necessity, but a luxury for dressy occasions. It should, of course, hang from the shoulders.

The dress, or slip, twenty-seven inches in length, should be simple, but no matter how elaborate it is, it should have no lace about the neck to cause irritation of the skin. I have seen bad cases of eczema started in this way. The neck should not be tight and it is best tied with a tape in the back, rather than fastened with pins or buttons for the baby to lie upon. Sheer batiste or nainsook is the best material both for the underskirt and for the outer slip. The stockinette night-gowns are very nice and may be worn night and day in the early months, if we do not care to be dressy.

A jacket, as mentioned below, may be worn on cool days after the child is old enough to sit up. Socks are worn in winter, but never heavy woolen ones. They should be pinned to the diapers and not tied on.

The diaper problem is an important one, especially in the city apartment where baby's laundry has to be done up every day in a

The Dress,
or "Slip."

The
Diaper
Problem.

small space. Bird's-eye diapers are the best and they may be made in two sizes, a small one eighteen inches square for the new born infant and larger ones, thirty inches square for the older infants. Rubber diapers should never be worn since they irritate the buttocks and are a common cause of chafing and even of bad skin disorders, as well as being uncleanly. The diapers soiled with the stool should be rinsed out at once and then put to soak with the wet diapers. Great care should be taken in the washing. First scrub them thoroughly with ivory soap, then boil them for fifteen minutes, and rinse them in at least five waters, or until the water is no longer cloudy. Strong soaps allowed to remain in the diaper often cause severe eruptions on the buttocks. The diapers should be changed as soon as the baby has wet them, always before a nursing, although it is not advisable to waken him just to change them. Soiled or wet diapers should be put to soak immediately in a covered enamel pail, kept exclusively for that purpose, and washed out each morning. Under no circumstances should a diaper be

used twice without washing. After the first year, diapers should be discarded for drawers and waists. Rompers should not be worn until baby has learned to keep himself dry in the daytime.

Blankets seem almost a part of the baby, *Blankets.* they are so numerous where he abides. While sleeping, the number of blankets necessary should be judged by the temperature of the room. When we have baby in our arms, one blanket is well in winter, but after he is old enough to sit up, the jacket should be substituted for it. Winding the blanket around him is unnecessary and uncomfortable even when he is out in his carriage. In fact I have seen temporary paralysis of the arm from pressure of the tightly wound blanket.

In putting on baby's clothes he should lie flat upon the nurse's lap, and the clothes should be drawn over the feet and not over the head. Baby's clothes should, of course, be changed throughout once each day at the time of his bath. During the first four months it is not necessary to change to night clothes at night, except for dressy babies

*Changing
the Baby's
Clothes.*

who wear fancy gowns in the daytime. Night and day are very much alike to him. At four months short clothes may be worn.

The one thing above all others that I have to talk to my patients the most about is overdressing. Not only are mothers apt to bundle up their babies too much, but their older children, as well. During the hot weather baby should be kept cool. On hot

The Danger of Dressing Infants too Warmly.

days the flannel skirt and socks and even the shirt should come off, provided the baby is strong and doing well. Any baby who perspires is dressed too warmly. This is the thing that governs me in dressing my babies. It is perfectly easy to slip on a flannel skirt when a cool day comes, for it does no harm to change the thickness of the clothing from day to day as the weather changes. Babies who are too warmly dressed do not digest their food as well and are apt to vomit or have loose bowels when the hot days come. Nor is it advisable to have too warm clothing in the house in the winter. Remember that the average house or steam-heated apartment is 70° or even 80° in temperature, which would be considered a warm day in summer.

In older children especially is this error apt to occur. The average mother has such a fear of her child's catching cold that she gets the warmest, thickest underclothes she can buy. The child is overheated in the house and then goes out with a skin which is moist and "coddled," so that it does not react to different temperatures, as it should and which is one of its chief functions. Probably more colds are acquired in this way than in any other, all through the mother's anxiety to prevent them. I never allow any thick woolen underclothes at all, winter or summer in this climate. The girl has her flannel skirt, cotton underdrawers, waist, shirt, and stockings, and after she is too old to wear leggings out of doors, she may have light-weight underflannels coming to the ankles. The boy, after he has come to trousers, may wear balbriggan underdrawers and shirt, and knitted waists or suspenders to support the trousers. When they go out doors in cold weather, children should wear leggings and a warm coat. In fact they are far less apt to catch cold if we save the warm woolen things for out doors and dress them com-

How to
Dress
Older
Children
in Cold
Weather.

fortably in the house. Fur earlaps are pernicious things. They are worn on cold days and when taken off occasionally on a warm day, the ear, being unaccustomed to the change, is apt to suffer. In fact furs of any kind are apt to overheat the body in any but the coldest climates. In winter it is well to have a bonnet or some protection for the ears for children under two years, but after that, a veil tied over the hat on cold days is sufficient. Even the thickness of the bonnet should not be changed from day to day.

Socks. Socks for older children are well enough in summer, but absolutely tabooed in winter. Some mothers have the idea that it "hardens" their children to let them go about in winter with no covering for the legs. It is not only a foolish idea, but a harmful one. Full-length stockings should, therefore, be worn except in the summer months.

Shoes. The shoes should be broad in the toe and always plenty long enough. Children's feet grow so fast that it is often a temptation to allow them to wear a perfectly good shoe even though it is a trifle short. Let us hope that

there is another baby in the family who will come along soon to save them if one is economically inclined. Soft, thin shoes are best for the feet in the second year when baby is learning to walk. The present style of thick, hardy looking shoes should be reserved for the older child. Rubbers or overshoes should always be worn on damp or cold days, as the thin shoes are so easily penetrated by the cold or moisture. Wet feet may not do any harm, but they never do any good.

At night, since the nursery windows are to be wide open in the winter, the clothing should be warm. The infant has more blankets, and the older child an undershirt and outing flannel or woolen "Johnnie Bears" (one-piece suits with feet in them), the number of blankets varying with the temperature.

Night
Clothing
in Winter

THE BATH

BABY'S first full tub bath comes when he is about a week old (when the cord has come off) and from that time on he should have one bath daily throughout childhood. The room should be warm, but not overheated, 75° to 80° F., and there should be no

The Bath-
tub.

draughts about. A metal or enameled bathtub is a necessity and it should be kept scrupulously clean. The folding rubber bathtubs are very hard to keep clean and I do not approve of them entirely. If one is used, it should be thoroughly cleaned, dried, and aired each day. I have seen a nurse put soiled diapers into the bathtub to soak, with the result that might be expected — infection of the baby's skin and a good crop of boils.

How to
Wash the
Baby.

The baby's head and face must first be washed and dried. The eyes, nose, ears, and genitals are then cleaned with a fresh piece of absorbent cotton dipped in a bowl of boracic acid and water, a teaspoonful to the pint. The mouth should be left alone, not only at the time of the bath, but at all times. One of the most pernicious practices of the present time is the constant scrubbing of the inside of the mouth. The mucous membrane or lining of the mouth is often injured in this way, and makes it far more liable to thrush and other infections instead of preventing them. The baby's mouth will take care of itself and be far better cleansed by its

own saliva. The baby should be thoroughly soaped in the lap and then laid in the bath-tub to wash the soap off, with the head supported. Under no circumstances is the sponge or washcloth to be used for little babies. A fresh clean piece of absorbent cotton is much better. Every baby should love the bath; if there is any crying, it should be only when he comes out of it. After the bath, the baby is quickly dried with a clean, soft (possibly old) towel, but with very little rubbing, and the folds of the skin powdered. Never allow powder to accumulate in the creases. Powder is used to complete the drying of the skin but the excess should be gently rubbed off with a fresh piece of absorbent cotton. The custom, frequently practiced, of putting a lot of powder in the creases and allowing it to remain is a very bad one. The powder becomes wet, rolls up into hard little balls and causes soreness and discomfort.

The temperature of the bath is as follows: The first eight weeks, 100° F.; until six months, 98° F.; after six months, 95° F.; during the second year, 85° to 80° F. After the second year, at the end of the bath, a

The Temperature of
the Bath

cold douche poured over the child at the temperature of the cold water faucet is stimulating, and keeps him from catching cold. A bath thermometer is a necessity. It should not be discarded after the first few months, as is the custom in most of the families with whom I come in contact. Unfortunately the cheap wooden framed bath thermometer commonly sold by the druggist is not reliable and often is five or ten degrees out of the way. It can readily be seen that much harm can be done by a thermometer that misleads. Any child who has been accustomed to warm or hot baths should have the temperature lowered a little each day until the proper temperature for his age is reached.

The Time
of the Bath.

The infant's bath should be given before the 9 A. M. feeding so that he may be put out doors for the morning airing as soon as that feeding is finished. There is no danger of his catching cold by going out in his carriage so soon after the bath.

The infant is more apt to need the bath in the morning, and it is my custom to give a morning bath throughout the first year,

and an evening bath after that time. When the small infant's bath is given in the middle of the morning the whole day's routine is upset. It should be our object to train the infant to a routine from birth and unless the bath is given at the same time each day and at the right time this cannot be accomplished.

In all of these talks, I have in mind the well baby, but perhaps it would be best to say a word about the sickly baby's bath. Small, thin, emaciated babies often do not stand the bath well. They, of course, are under the care of a physician, and he will recommend a sweet oil rub, or whatever is necessary to take the place of the bath. Children with eczema or other skin affections are often benefited by omitting the bath. However, I do not believe the bath should be omitted because the child has a cold or a little fever or any other illness too slight to require a physician's attendance. At such times a bath is often restful and quieting, and the child goes off to sleep for the night when he would otherwise have been fretful and restless.

Certain
Cases when
the Bath
May be
Omitted.

FRESH AIR

Draughts *versus* THE last generation feared fresh cold air
Ventilation. and a draught as the present generation fears bacteria and the germs of disease. In both generations we have gone too far, and as usual the pendulum has swung way beyond its intended turning point. Plenty of fresh air tends to get us into such good condition that we may resist or throw off colds and other illnesses caused by germs; at the same time overexposure and draughts I am sure will sometimes cause them. Some of our leading authorities still claim that draughts are not harmful, but I believe that when we are in the house, it is best to avoid them, provided it is possible to get a good supply of fresh air coming into the room all the time. If I had to choose between bad air and draughts, I would take the latter, but I do not think the choice is often necessary. In the summer a cool breeze does not seem to cause colds. One hour of bad air will do more harm than good air for the other twenty-three will undo; therefore, keep the room well ventilated every moment of the day.

It seems to me that it takes a great deal of thought to ventilate the individual house or apartment properly. If the rooms are large and open into each other, one or two windows in the proper place will furnish fresh air for the whole house. If we are dealing with a small apartment, we must select one room where the windows may be opened top and bottom and from which the fresh air may circulate without causing too much of a breeze or draught. It is a well-known fact that open fireplaces are wonderfully good ventilators, but they are now considered a luxury, I am sorry to say. At any cost, keep the air good night and day.

The temperature of living rooms should never be over 65° to 70° F. A thermometer should hang in the rooms that are most frequented by the children, and should be placed at the height of their heads. Overheating is the commonest error in the city. In the country perhaps the most usual mistake is draughty rooms, floors, and cold halls. On the other hand air-tight rooms in which the same air is breathed over and over again without once changing is a common occurrence.

How to
get Fresh
Air into the
House.

Proper
Temper-
ature of
the Living
Rooms.

Ventilation of the Sleeping Room. The sleeping room should have one or more windows wide open top and bottom throughout the year. The bed should be as far away from the windows as possible and in a corner out of the direct draught. If this is not possible, a blanket may be pinned around the crib, so that the winter winds will not blow directly upon the baby. It is sometimes hard to convince the mother that her child should sleep in an unheated room, but when she has once accustomed the baby to it, she soon sees what a beneficial effect it has upon him. He sleeps more quietly, learns to keep under the bed clothing, and does not catch cold nearly as easily. The room being cold, the night clothing should be warm, varying with the temperature (see "Clothing"). This does not always apply to sick infants nor to those under two weeks of age. Of course in very cold climates the temperature of the sleeping room should be kept well above the freezing point.

Outdoor Airing. It is my observation that city children get more fresh air than country children during the first and second years. As is proper, the carefully brought up city child gets his airing

at a stated time each morning and each afternoon. It is his routine that saves him, while the country child is not allowed to be out when the snow is deep or the weather inclement, and often is taken out only when convenient. In mild weather or in warm climates they may be taken out at the age of two weeks, but in the summer earlier than this. The length of time for the airing depends upon the time that can be devoted to it by the mother or nurse. Twenty-four hours a day for every child over two months of age would be none too much if it were practicable or possible, but, of course, it is not. So get the baby out of doors right after the nine o'clock feeding in the morning and do not bring him in until the noon feeding is due. After he has been fed and changed, out he should go again to remain until the next feeding time. In winter he may stay out until sundown every single day, unless it is raining so hard that the clothing will get wet, or it is so cold that there is danger of his cheeks being frozen. It often takes a long time and considerable patience for me to convince a new mother or an old time grandmother that baby should go out on a

foggy damp day, in the melting snow, or when the wind is high. But once they try it they are converts for life. The rosy cheeks and firm flesh, freedom from colds, good digestion—in short, the resulting real “Healthy Baby”—are convincing indeed. Then how amused they are to think they feared “such extremes” for their babe. It is the mother who is afraid of fresh air who keeps me busy making calls upon her sick baby, for the fresh air baby is seldom ill. I am often asked whether it is not just as well to open the window and let baby get his fresh air in the house. This is never the same thing. In the winter time the air is dried out by the heating apparatus and the sun is not as bright. There is, however, a splendid window crib that extends out of the window, which is a wonderful time saver for the city mother who has no piazza.*

What to do
when the
Weather is
Inclement.

When this outdoor airing is absolutely impossible, the baby should be dressed for the street and put in the carriage close by the widely open windows and in the sun. The sun should not be allowed to shine

* Window Crib Company—3135 Broadway, New York City.

directly into the unprotected eyes, whether in or out of doors. In the city it is as necessary to have a carriage for the baby as it is to have a bed. Rainy days are hard on any child, but the older one is sure to miss his outing. Put on his hat and cloak and open all the windows in the nursery, and see how much pleasure it gives him, as well as rosy cheeks.

The delicate child often requires fresh air even more than the well child. The appetite is improved and the strength increased by good pure air. Sleep also is often induced by the airing. Many a sick child who will not sleep well in the house immediately sinks into a restful slumber as soon as he is put out in his carriage. Of course, there is no objection to sleeping out of doors in sickness or in health, provided the baby is properly dressed for it. Occasionally the mother of a sickly child will tell me that she cannot take the little one outdoors at all, because every time she does so he catches cold. That is the very reason he is sickly, and unless he is taken out every day and accustomed to the fresh air treatment he will always remain delicate.

The
Delicate
Child.

He should, therefore, be taken out in spite of his catching cold unless he has a fever.

School-
rooms. School children should have especial care paid to their supply of fresh air. It is always possible for the energetic parent to impress upon the proper authorities the beneficial effects of fresh air in the school. The modern public school buildings have splendid systems of ventilation, but private schools are often in dwelling houses that were not meant to hold many people, so the air supply must be carefully regulated by means of the proper window ventilators. School children should have their share of outdoor life, too, since this is often the period when sedentary habits are established.

EXERCISE

JUST as children automatically get the proper amount of sleep, if they are given half a chance, so will they of their own accord take the proper amount of exercise. It only remains for us not to restrain them. Of course, there are occasional exceptions to this rule.

The chief restraint that we are apt to place upon them during the early months is that

of clothing. If this is loose enough to permit of free movements of the arms and legs, baby will get exercise, especially when he cries. At the same time he should have half an hour night and morning when his diapers and socks are removed and he is laid upon the bed in a room of the proper temperature, free of draughts. There he kicks and plays to his heart's content and develops his muscles. When he has learned to creep and later to walk, it would seem as though he would wear himself out, he keeps at it so constantly. There is no danger of this, however, if he is not overpersuaded and if he has the proper number of naps and sleeping hours.

Freedom of Movement should not be Restrained by Clothing.

First Year.

Second Year.

After the second year, the baby carriage habit is a common restraint in the city. Baby has been wheeled about all through infancy and it is difficult to change to walking, but we will not make this mistake if we realize that he needs this exercise. On the other hand, long walks on the street to the point of fatigue are, of course, unnecessary and harmful. In the country a shovel and a dirt or sand pile will be sufficient incentive to exercise. As a matter of fact country children

The Baby Carriage Habit.

After the Second Year.

usually get enough exercise from this age on, if you turn them out in the open and let them play from morning until night, except for the naps. The city child often stores away enough good health from his summer outing to last him throughout the winter.

The Child
who does
not Want
to go Out.

After five years of age, the matter of exercise is occasionally a problem; for there are those children who have been kept too closely to the mother or nurse, or who have been brought up to fear dirt, or have a natural inclination to sedentary things, such as sewing or reading. Every inducement in the way of making outdoor life attractive should be offered. If this method is not successful in getting the child to like it, he should be compelled to go out. I am aware that the city mother may dread sending her children into the streets and parks, and the country mother may fear the contact with her neighbor's children, but if she has brought her children up to obey her and wish for her approval of their acts, she need not fear association with other children. At any rate, I would vote for the outdoor exercise in spite of risky associations.

As the children get old enough, especially girls, it is well that they become interested in competitive outdoor games, and in this way pave the road to a lifelong fondness for exercise. Gymnasium work in the winter and the indoor sports are invaluable paths to good health in the cities.

The delicate child should have his exercise regulated for him. Most excellent work is now being done in corrective exercises for delicate children by those trained in this work. A child who tires easily usually has some particular cause for it.

Can the child get too much exercise? There certainly are active boys and girls who enter so enthusiastically into their play that they come into the house perhaps too tired to eat or sleep. This is due to excitement during play, especially when they are playing with children older than themselves. Here, as in almost every question of child-welfare, moderation is advisable, and such children should be restrained to a certain extent.

Exercise
for the
Delicate
Child.

Can the
Child get
too much
Exercise?

TRAINING AND DISCIPLINE

LACK of discipline is an American weakness. You cannot imagine the humiliation with which I have heard foreign-born mothers of my charity patients say, "But he is like the American child, he does not mind."

The Key-note of Discipline.

A child's training begins during his first week, and unless he has learned the meaning of discipline at home, where it is kindly meant, it goes hard with him by the time he gets out into the world; for wherever he is, he must stand the consequences of his acts. This is the keynote of discipline. A child's naughtiness is punished because, if it is allowed to go on, he will not be happy himself and he will be the cause of unhappiness in others — just as in later life he will be rewarded at least with a happy conscience if he does right, or will be punished if he does wrong.

Too much Handling in Baby-hood.

From the very first a baby who is picked up every time he cries recognizes the lack of discipline. He cries to attract attention — it is about the only thing he knows how to do. He is held more and more each day until he ruins his health by lack of sleep and

too much handling, and spoils the pleasure of his parents. I do not mean that he should never be taken up and held, for I believe parents should enjoy their babies, especially after they are old enough to take notice of their surroundings. But there is a happy medium; if we play with the baby a little before his feedings or during his afternoon recreation hour, he will become accustomed to being taken up and laid down as we wish, and it will never occur to him to expect it at any other time.

There are several particularly trying periods in a child's training. One of them is at eight or nine months when he is emphatically insistent upon having his own way. He has really just discovered that he is an individual with a will. He wants something on the table and grabs for it. Mother takes it away from him and he picks up the next thing as quick as a wink. Mother takes this away and the same performance is repeated until there is nothing left. Then he cries until mother gives back the desired object in order to keep him quiet. What mother should have done is to put up her finger and

Nine
Months of
Age a
"Trying"
Period.

say, "No." If after this he tries it again, as he is liable to do, his chair should be turned back to the table so that he may know his misbehavior has been punished. It is wonderful how soon he learns to "stop" when told to do so, for we are apt to underestimate his intelligence greatly.

Anger and
Threats
have no
Part in
Discipline.

Disciplining should always be done in as pleasant a manner as possible. Of course, every one knows that the spirit of anger is not part of discipline. Correction should also be done with a positiveness that leaves no doubt in the child's mind what his course is to be. Sternness is seldom necessary. Allow the child every liberty that comes within the limits of propriety; use few "don'ts," but when the word is once said, enforce it. Make him happy and enter into his pleasures as enthusiastically as you know how. *But*, when you tell him to do a thing let him mind without any hesitation. Do not speak but once. If he does not obey the first time, do something that will impress his mind with the fact that you meant what you said the first time you said it — let him understand that your word is law. The mother

who threatens her children with punishment a dozen times to every once she administers it, is never obeyed. Her children know that she is apt to lie twelve times first, and, being natural optimists, they think of the thirteenth time when they will have to obey as in the far distant future.

As a child grows older, we must recognize his individuality. Some children are far more difficult to manage than others, but secretly I always have my doubts about the parents of a child who does not mind well. It requires not only good judgment, but a fondness for children, to attain good discipline in one's family. The rod is not popular at the present time, I know, but some children still need it.

The Child's
Individuality a
Factor in
Discipline.

The same kind of punishment repeated time and time again is often ineffectual in a child who is hard to manage. A child who is shut in the closet every time he is naughty soon learns to amuse himself there, even to the point of forgetting that he is being punished. If we can manage to show our scorn of his misdeeds in some unexpected way, it is far more apt to make an impression upon him.

The
Danger of
Too Fre-
quent
Punish-
ment.

Above all do not punish him too often. I have the greatest sympathy for the child who is constantly in trouble. Try to make his happiness your object, and obedience a natural consequence of your wishes. An entirely different tack may be taken up when one kind of treatment has been tried and found wanting. I have known a child to improve wonderfully in his behavior when the parents have overlooked his misdeeds, and stopped all punishment for a while.

Teasing.

Teasing has ruined the disposition of many a child. The parents, of course, will not be guilty of such conduct, but older children in the family, or an uncle or aunt, may make a child's life utterly miserable by constant teasing. I have seen a great strong brute of a man keep a child struggling hours for some object and almost allow him to get it over and over again, only to thwart the little fellow's purpose by sheer strength just as he has reached his goal.

Truthful-
ness and
Imagina-
tion.

Truthfulness and honesty are not born in every child, but it may always be acquired if we take the trouble to teach it. In the first place never tell an untruth to a child

yourself. If you make a practice of it, he is not to blame for acquiring the habit, too. Then never allow an untruth to be told by him without letting him see that you know it is not the truth. Do not make too much of it, but simply correct him in his statement, unless lying has become a fixed habit. I do not mean that you should doubt his word constantly, for that leads him to think you expect untruthfulness of him and he surely will not disappoint you if you do. Remember that there is a certain age when the child is very imaginative, and this tendency should be encouraged, for imagination is a very valuable trait if it is under proper control. In fact, I believe in imaginative stories being told to children, and imaginative events being described to them, both to encourage the trait and to enable them to distinguish between imagination and lying. For instance, if you tell him a tale about himself that is purely imaginative, he will say, "Is it a true story or a fooling one, mother?"

Asking questions is a much discussed subject which I will just touch upon. Answer a child's sensible questions so long as he is

The
Question
Habit.

interested enough to listen to the answer and remember it afterward. The annoying habit of a child's asking one question after another without waiting for an answer is to be discouraged. Always answer truthfully and do not try to make him feel that you are infallible, for he will lose faith when he finds you are not.

Above all teach a child to be happy. Instill happiness into him by being happy in his presence. We sometimes hear a mother say, "The children are cross to-day," when it is because she has been in a bit of an ill humor herself. Things have not gone right and the children have caught the spirit of it immediately. Allow them every pleasure that will do them no harm, so that the spirit of joyousness will blossom within them and they will learn to be happy even in adversity.

DAILY ROUTINE

*Beginning
the Day
Right.* DID you ever go into a home where everything went off like clockwork, so that it seemed as though the household moved smoothly on of its own accord? Every event in the day has its time and place. Well,

that is due to a good daily routine. Even such a model household as this is terribly upset when a new baby comes into it, but the executive mother, as soon as she is strong enough, will set the machinery going right again. The first thing she does is to plan out baby's daily routine. The feeding times must first be adjusted, for these come at definite intervals which divide the day into sections. When we have decided upon the length of time between feedings necessary for this particular baby,—three or four hour intervals and it is usually three hours (see "Feeding"),—we start the first feeding at a given time, say six o'clock in the morning, thus beginning the day right. This will give the nurse or mother time to dress, have her breakfast, give the baby a bath, and even make up the bottle-fed baby's feedings before nine o'clock, when the next feeding is due.

After the nine o'clock feeding, the baby is taken out for his airing and morning nap. If there is a yard or fire escape available for this part of the day's program, the mother has this interval free for other duties. At

The Day's
Schedule.

twelve comes another bottle, followed by the mother's luncheon and baby's afternoon nap and airing. At three there is another feeding, followed by an interval, during which baby has his recreation hour, lying on the bed or sitting on the floor at play by himself. During the hour before six he may be held in the lap or entertained, if one has the inclination, or if he gets restless and fussy by himself. After the six o'clock bottle, he goes to bed for the night and is not taken out of bed again until morning, except for his feedings. The mother or nurse then has her evenings free to do many things she wants to do. I have heard mothers say that they never realized there was a baby in the house after they adopted some routine of this sort. The routine has to be changed with changed conditions, but I have outlined this one which has proven very useful to many of my patients.

Necessity
of Chang-
ing the
Program as
the Child
Grows
Older.

As the child grows older, the daily program has to be changed, the mother having meanwhile learned to develop the routine that serves her best. She should remember, however, that routine is meant to aid her in performing her duties in the easiest way as well

as to bring up baby to be orderly and systematic. She must not become a slave to routine, so that the day's work is a drudge, for the best of rules are meant to break when the occasion demands it. For instance, when the child reaches the age when four meals a day are necessary, the mother very likely reads a diet list which prescribes breakfast at six, a lunch at eleven, dinner at two, and supper at six. Her own meals must come in between these hours, so that there is some meal being cooked in the household nearly all day long. How much simpler it is to have baby's breakfast and luncheon at the family's regular meal hours, with a bottle at 10 P.M., to make up the four feedings. In this way the mother makes a routine which is easiest for her and equally as good for the baby.

HABITS

As I have said, a child is a creature of habits, and so are we all. Let us begin with him early and make the habits good ones. Train him to do the right things from the start. The habit of regularity, the habit of cleanliness and the habit of happiness may

be started, and are even best started, in infancy. The habit of the bodily functions, the habit of orderliness, the habit of obedience are developed as he grows older.

Cleanliness
and
Orderliness.

Habits of cleanliness are cultivated by constant watchfulness. There is no need of a child's covering himself with mud as soon as he has been dressed, nor of smearing himself with food as he eats. The older child develops habits of orderliness by being taught to hang up his clothes as they are taken off, and by putting his toys away when he is through with his play. He is taught to pick up after himself as he goes along, instead of leaving one grand clutter to be cleaned up after he has gone to bed.

Proper
Training
of the
Bodily
Functions.

As to the bodily functions, if we keep his diapers dry and clean in infancy, he learns to warn us by crying when he is wet and uncomfortable. If, as he grows older, we put him upon the chair at regular intervals, he learns to make the function of urination a voluntary one and under the control of the will. So, at eight months or thereabouts, put him on the chair every hour while he is awake and gradually lengthen these intervals

until at a year he will reward you for your labor by keeping dry all day long. Take him up at night when you go to bed and he will form the habit of not wetting the bed as soon as he is old enough to have his ten o'clock nursing or bottle discontinued, at sixteen or eighteen months. The habit of the bowel functions I have spoken of under that heading.

There are bad habits that baby acquires himself, and there are bad habits which we deliberately bestow upon him. In infancy the most common of these is sucking. The use of the "Baby Comfort" or nipple is never a habit he picks up himself. It is taught him by his elders, who show little sense in permitting him to acquire a habit which is injurious. It is natural for the baby to get his food by sucking, but the continual sucking deforms the mouth and jaws and is the chief cause of protruding teeth in adults. That it also causes adenoids and enlarged tonsils I am firmly convinced. Finger sucking and sucking of the sheet and clothing the child learns himself, and it is still more injurious and more apt to be

The "Baby
Comfort."

Finger
Sucking.

continued through the second and third years. Even sucking of the lips sometimes becomes a habit. These sucking habits require different treatment according to the age of the child and the form the habit has taken. Babies may be broken of finger sucking by putting on mittens or pinning the sleeves to the dress or bed clothes. Older children may wear aluminum mitts * for a few nights. Sucking of the sheet or pillow case may be remedied by taking that article away from the child's bed altogether. The best way to treat any bad habit is to put a stop to it at its inception.

Some children cannot go to sleep without pulling the ear or twisting a curl of hair about the fingers. These habits are not as harmful as some others, but it is well to check them lest worse ones follow.

The Importance
of Self-
mastery.

Nail biting in itself does no harm except to disfigure the nails, but the very notion that a child gets, that he has a habit which he cannot stop, is harmful in itself.

Nail biting is originally caused by rough finger nails that have not been properly

* Handihold mitts.

manicured. Filing the nails after cutting is all that is necessary to overcome the habit. If the habit is of long standing and the nails have been bitten down too close to allow filing, gloves must be worn night and day until the nails have grown out a bit. Even an adult bites his nails if they are rough and uncomfortable.

A child with a bad habit should be persuaded to give it up by rewards, or otherwise, so that he may acquire a sense of self-mastery. This knowledge that he has himself in control is a wonderful trait to acquire and if more children were taught it, fewer young men and women would fall by the wayside when more serious temptations present themselves.

PART III

COMMON AILMENTS

THE SICK ROOM

WE are not all situated so that the ideal sick room is a possibility. Apartment dwellers especially have to be content with as close an approach to it as is practical under the circumstances. It is, however, absolutely necessary to give up one room exclusively to the sick child at whatever sacrifice it requires — that is, if a prolonged sickness is anticipated. This should be the quietest, sunniest, airiest room in the house, even though you have to take a room which is not ordinarily used for a sleeping room. The chief consideration is the matter of airing. Under no circumstances should we select a room which cannot be aired while the patient lies in bed, and at the same time be well heated. It is not necessary to take down the pictures and hangings and take up the rugs, but this may be done if one wishes. It is best to have the bric-a-brac and knickknacks removed, and the table and bureau top swept clean of its usual complement of articles, so that the furniture may be used for medicines and other paraphernalia of sickness. The bed should be so placed that

Arrange-
ment of the
Sick Room.

the sun will not shine directly into the patient's eyes, and it should also be out of the direct line of a draught when the windows are open. This being impossible, a screen may be used.

**The Sick
Room
Conduct.**

The sick room conduct is of the greatest importance. All should be quiet and orderly and systematic. No visitors are allowed until permission has been granted by the physician. Engaging in prolonged conversation even in an undertone is very disturbing to the child. Never more than two persons are allowed in the room at the same time, and unless some particular duty relative to the treatment requires it, one is all that is necessary. If there is a trained nurse in attendance, do not hamper her with any interference. She can gain the child's confidence more quickly if she is given a few hours alone with him than she can if you are there. Where there is no nurse, one person should be responsible for all that goes on in the sick room. She should be relieved of her duties for her sleep, as she is not competent to attend to the patient properly when she is tired out for want of rest.

In contagious diseases, the person in attend-

ance should not leave the room, but should have her bed there, or, better still, in an adjoining room. Where two nurses are required, a second room is indispensable. All dishes should be kept separate and washed in the room if possible. All clothes, towels, and the nurse's outer clothing should be soaked in a solution of carbolic acid, one half ounce to a gallon of water, before they leave the room to be laundered. No visitors are allowed — even the family should not come into the room for fear of carrying the contagion about the house.

In Case of
Contagion.

CONTAGIOUS DISEASES

IT is odd that with the present popularity of medical lay articles, the writers have not shown more interest in teaching the public how to avoid the common contagious diseases.

In the first place, never expose the child to any contagious disease in order that he may have it once and done with it. Even the so-called simple children's diseases, such as measles and whooping cough, have a death rate that is appalling. Nor should you allow politeness to stand in the way when there is

Exposure
to any
Contagious
Diseases
to be
Avoided.

any danger of your own child getting a contagious disease. Never take your child into a household where there is any sickness whatever, for it may turn out to be a contagious illness no matter how it begins.

The saliva and other secretions, especially the nasal secretions and the droplets that are spread about during a paroxysm of coughing and sneezing, are laden with the germs of the disease with which the patient is suffering and this is true of most of the contagious diseases including the common cold. So, not only avoid people with these unpleasant symptoms but beware of anything that has touched their lips — drinking cups, eating utensils, telephones, towels, napkins, handkerchiefs and even their hands which have come in contact with these secretions. "Contact" is the word now used to express the mode of contagion and if contact in the above broad sense were possible to avoid, all contagion would cease at once.

Scarlet
Fever.

Scarlet fever is among the most dreaded diseases of childhood, and rightly so. It is also one of the most contagious, but fortunately the danger of contagion is not so great

during the early stages. I have known a child to sleep in the same bed with another child coming down with scarlet fever and not catch it. From this it is evident that we should move the already exposed child away from the contagion as soon as we discover it, no matter how late that may be. In scarlet fever there is a chance, at least, that he has not contracted it from this one early exposure. However, the disease is caught early through the vomitus, and consequently it is safer to avoid a vomiting child in the streets, cars, and public places anywhere. Unfortunately scarlet fever is contagious for a long while after it has actually set in, usually four to six weeks. As long as there is any peeling or discharge from the ears or nose, the danger of contagion is still present. Everything with which the scarlet fever patient has come in contact during his illness may be regarded as a source of contagion.

Measles, on the contrary, is just as contagious in its early stages, when the eyes and nose are running and four days before any eruption has appeared, as it is at the height of the disease. This is why the whole family

Measles.

is liable to come down with it when one member of the family brings it home. Unless the physician is called during this stage, the disease is not diagnosed until the eruption appears, when it is too late to prevent the rest of the family from getting it. This is also another reason why we should keep our children away from any one, especially another child, who has a cold in the head. I have had the misfortune to treat for measles ten children in different families who had all attended a birthday party at which was present a child who was in the catarrhal stage of measles, no eruption having made its appearance in the child when he went to the party. His mother thought he simply had a bad cold and let him go. It is needless to say that that mother was not popular in that particular set for a long while afterward.

Diphtheria. Diphtheria, I am happy to say, is one of the contagious diseases which the physician can prevent absolutely after the child has been exposed. An immunizing dose of diphtheria antitoxin will always make it a certainty that a child will not get this dreaded disease in spite of definite exposure to it. There are

no dangers in giving antitoxin in its present-day perfection, no matter how delicate the child may be. A person may have diphtheria many times but it can be determined whether an individual is susceptible to the disease by a simple skin test called the "Shick Test." All persons found to be susceptible can be made permanently immune by the administration of a comparatively new serum called "Toxin-antitoxin." This requires three doses at intervals of a week. If the "Shick Test" were used on all children under five years of age and the serum administered where necessary, diphtheria might be eliminated from our list of children's diseases as is small pox today.

Whooping cough is a dangerous disease. The death rate from this so-called benign disease is as great in New York City as that from scarlet fever, diphtheria, and measles combined. Therefore, keep your child away from whooping cough, especially your baby, for it is most fatal among children under a year. The person having it is a source of contagion as long as he has a paroxysmal cough, this period varying from six weeks to three months. Once acquired,

Whooping
Cough.

do not become pessimistic and think whooping cough must "run its course." Your physician can do something to prevent the severity of the disease, and he can often shorten its duration. He can usually prevent the complications which are the dangerous phases of the disease.

Neither mumps, chicken pox, nor German measles is a dangerous disease if the child is well cared for during its run.

Smallpox. Smallpox may be absolutely prevented by vaccination, provided the vaccination takes properly and provided it is done often enough. I have no sympathy with anti-vaccinationists. They do not recognize the fact that before vaccination was compulsory, epidemics of smallpox swept over the country, leaving one third of the population dead and many others marked for life with the pits of this most dreaded of diseases. It was with the utmost satisfaction that the medical profession in recent years witnessed the deliberate exposure to smallpox of a prominent anti-vaccinationist of Boston. He had claimed that there was no danger to the unvaccinated from the disease. He acquired smallpox at

the prescribed time and barely escaped with his life. Every healthy child should be vaccinated before he is six months of age. He should subsequently be vaccinated once in five years and when he is exposed to the disease. There are no dangers at the present time from vaccination if it is done properly and the wound kept clean until it has healed. Any serious trouble always comes from the lack of these precautions.

Vaccina-
tion.

Colds and coughs, sore throats, and tonsillitis are certainly contagious. Keep your children away from people who have any of these ailments. However, the better your child's hygiene and the better his general condition, the less liable is he to become infected if exposed to them. Kissing is an unfortunate custom of civilization, for it spreads disease, especially coughs and colds. It would hardly seem necessary for parents to be constantly on their guard to prevent the kissing of their children by friends and strangers, but such is the case. Public drinking cups are the cause of many illnesses and the common cup at school should never be allowed. (See "Colds.")

Coughs
and Colds.

The Mosquito and
the Fly.

Mosquitoes are the sole cause of malaria. In malarial districts take the most rigid precautions to prevent mosquito bites. The much-abused house fly deserves his reputation. He is the carrier of typhoid fever, bowel troubles, and many other infectious diseases of the summer season.

School
Inspection.

Schools are the chief source of the principal contagious children's diseases, as the statistics show that these diseases are most rife during the school months and in children of the school age. In our large cities the public schools are well inspected medically. It is our duty to our children to demand proper medical supervision in the private school, also, before we place them in one.

Tubercu-
losis, or
Consump-
tion.

Tuberculosis is a contagious disease. It has so long been considered an inherited disease that the general public find it hard to get the old notion of transmission from parent to offspring out of their minds. To be sure the tendency may be inherited, that is, a poor and weakened constitution, but this may be overcome with comparative ease under the proper conditions. Children from a tuberculous family should have especial

care paid to fresh air and diet from the moment they are born. They should be kept in robust health by fresh air night and day, and by having the diet a nourishing one. The vigilance of the parents should never be relaxed in either direction. On the other hand, exposure to tuberculosis should be avoided. By this I do not mean that children will acquire tuberculosis upon one exposure, but that they should not live with tuberculous people nor come in contact with them daily. For this reason it would be well if the general public looked upon tuberculosis as a contagious disease. Care should be taken that the nurse has no cough and has not been in contact with people suffering with tuberculosis.

I believe that many cases of tuberculosis in children come from living in houses or apartments where consumptives have formerly lived. When we realize how many families move into a house whose former occupants are not known to them, it is only to be wondered at that this disease is not spread even more than it is.

Milk is a source of tuberculosis in spite

Milk as a
Cause of
Tuber-
culosis.

of the fact that certain authorities have denied this mode of transmission. In no other way can we explain some of the cases of tuberculosis in children. Therefore, all milk used in making infants' foods, as well as milk for older children, must be from tuberculin-tested cows. Since an infant so often depends entirely upon milk for his sustenance, this is more important in infancy than at any other age.

FEVER

How to Tell
if a Child
has Fever

CHILDREN get fever very easily, so that this symptom has not so much significance in a child as in the adult. Fever often goes as quickly as it comes. It is usually easy to tell whether or not a child has fever by feeling of the body underneath the clothing and by his flushed face and glistening eyes. A child's temperature should always be taken by rectum, never by mouth, the thermometer being shaken down below the figures and inserted from three to five minutes. The untrained observer is not able to judge correctly the significance of the different degrees of fever. A high fever often serves to make the

mother unnecessarily nervous when there is no cause for alarm, and a low temperature may occur in a child who is dangerously ill. It is usually enough for her to know that there is a fever, but where a doctor is inaccessible a thermometer should be used.

With the onset of fever it is usually safe to administer a cathartic, stop food, and give an alcohol friction bath in the following manner : The clothing is entirely removed and a dry sheet or blanket wrapped around the child. One part is exposed, say an arm or the chest, and wet with equal parts water and alcohol. This is then rubbed briskly but lightly with the hand until it has dried. It is moistened again and the same process repeated, the whole body being gone over back and front in this way. A half hour is allowed for the entire bath. Do not dry with a towel or cloth. It is the cooling during evaporation, together with the friction, which brings the blood to the surface, that takes down the fever.

What to do
in Case of
Fever.

Plenty of water to drink may be allowed if there is not excessive vomiting. In fact cold water helps to take down the fever and

dilute any poisonous products within the body.

If the mother has not controlled the fever within twelve hours, or at least made sure of the cause of it so that she knows she can control it, she should not take the responsibility of treating the child further herself.

COLDS AND COUGHS

How to
Prevent
Colds.

THE best way to treat colds is to prevent them. There is no necessity of a child's having a cold most of the time, even though he is exposed to the infection through adults who have colds. His physical condition should be so healthy that he resists the infection when he is exposed to it (for colds are contagious), and he should never acquire

The
"Harden-
ing" Pro-
cess.

a cold of his own accord. This physical condition involves the so-called process of "hardening." It means fresh air every hour of the day, winter and summer. It means avoiding overexposure, direct draughts, and wet unprotected feet. It means getting the skin to react promptly and properly to different changes of temperature by correct clothing and by cold baths. It means the

right diet and proper, sufficient nourishment. It means plenty of sleep and an orderly routine of existence. It means that the child must be free from adenoids and enlarged tonsils (abnormalities which I have discussed under their respective headings). If it is worth while to prevent our children from having colds, then we must work, and work intelligently, to do all these things right.

There is no doubt about it that the warm steam-heated apartment, with the dry air which steam heat gives, dries out the mucous membrane or lining of the nose and air passages so that they are susceptible to infection and colds.

The temperature of the rooms should never be over sixty-five with a constant inlet of cool fresh air. Over-heating is the cause of most colds. I would recommend, where steam heat is used, that the twelve to fourteen hours of sleep should take place in an unheated room, no matter how cold the weather may be. Turn off the radiator as soon as the child is in bed and open the windows, the child being warmly clad for the night. If you have done

Other
Necessary
Precau-
tions.

all these things and done them right, your child will not have continual colds, as I have proved to my satisfaction over and over again.

*Colds due
to Change
in Climate.*

Where a child has been removed from one part of the country to another, he may not be able to throw off the new variety of contagious colds that are rampant in the new climate, even though he is in good enough physical condition to resist those infections where he has come from. This is because he has formed a resistance (or acquired immunity) from the bacteria in his own country but is overwhelmed by the new variety of germs in the next place he goes to. He has not become acclimated.

*The Treat-
ment of a
Cold.*

A cold once acquired needs to be handled properly. I cannot give you any one treatment for all kinds of colds, for there is none such. I would, however, advise against overdressing the child and the use of flannel about his chest and throat. I would most certainly not omit the bath. I would be still more persistent about the child's having his full supply of fresh air. In good weather I would not keep him in the house for a cold, unless he has a fever.

Sore throats are dangerous things to dally with, for it is very difficult for any one unskilled in throat examinations to tell the difference between tonsillitis and diphtheria.

Sore Throat.

Coughs are often due to the same causes as colds. There are, however, other causes which we must consider. Errors in diet are particularly liable to cause coughs, as are adenoids and enlarged tonsils. I have children under my care that develop a wheezy cough whenever they overeat or "stuff," or when they eat certain articles of food which have been prohibited. A chronic cough should never be allowed to go on, and a child who has many coughs throughout the winter should have a thorough overhauling to find the cause. Tuberculosis is always lying in wait for the child with the chronic cough, particularly after an acute illness, such as pneumonia, measles, whooping cough, and other children's diseases.

Coughs—
Their
Causes and
Significance

CROUP

CROUP is a spasmodic contraction of the larynx or air passage which may occur during the course of any ordinary cold. Some

Croup—
Its Causes
and
Symptoms.

children, and even all the children in certain families, are prone to have croup whenever they have a cold, while others never have it. The child perhaps has had a cold through the day and goes to bed in a fairly comfortable condition. Suddenly he awakens and sits up gasping for breath. The breathing is slow, noisy, and labored, and he is in great distress. There may or may not be a sharp, distinctive, brassy, barking cough. The excitement which the condition causes in those about him only increases his symptoms. Untreated, this condition continues three or four hours, when his fatigue causes the spasm to relax and he goes off to sleep. If it lasts longer than this, our suspicions should be aroused that we are not dealing with ordinary croup, but with diphtheria, or some more dangerous condition. This is also true of "croup" developing in the daytime. A child never dies of uncomplicated spasmodic croup, so even in his distress we should be consoled with the fact that he is in no danger, provided the diagnosis is correct. The next day the cold may be as it was the day before, and again after he has gone to bed the brassy

cough develops and the same distressing scene takes place.

The treatment during the attack consists of the following measures: (1) Wring out dry in cold water (60° F.) a soft cloth folded into at least six thicknesses. Place this quickly about the neck from ear to ear, underneath the chin. Cover with a piece of oiled silk or thick waxed paper, which is held on by a handkerchief tied about the neck. Change this every half hour until the croup has subsided, when it should be discontinued. (2) Cover the bed or crib with a sheet and set the croup kettle going with the spout underneath the sheet. (A steaming teakettle kept boiling by an alcohol lamp or gas stove may be rigged where a croup kettle is not at hand, care being taken not to set fire to the bed clothing.) This may be continued for hours or until the noisy breathing has subsided, even after the child has gone to sleep. (3) If the breathing is extreme, or if the above measures are not effective, or if the croup is caused by indigestion, administer one to two teaspoonfuls of sirup of ipecac, which will produce

How to
Treat
Croup.

vomiting and cause the child to relax at once.

Suitable medicinal measures should be instituted through the day to prevent a recurrence of the attack the next night, and proper treatment begun to prevent further attacks.

CONVULSIONS

One Convulsion Leads to Another.

BABIES and young children have convulsions when anything is wrong just as the adult has a chill or a severe headache. The old-fashioned mother used to think that her baby was entitled to so many convulsions anyway, and she was therefore very little disturbed when he had one. This was very wrong because even one convulsion, especially if it is prolonged, may do permanent harm. Besides that, one convulsion predisposes to another, and the more of them a baby has the more he is liable to have. Epilepsy is thus started in this way. Some children are far more liable to convulsions than others and have them on the slightest provocation. Unless the child has some definite disease of the brain, convulsions can be controlled by proper treatment so that he won't have

any more, provided the treatment is begun before too many have occurred.

The vast majority of convulsions are caused by something the child has taken into his stomach, by indigestion, or by incorrect diet. By simply changing the diet, I have many times put a stop to convulsions in children who have had them in increasing numbers for over a year. Other causes are: the beginning of an acute illness, irritation about the genitals, intestinal parasites (worms), adenoids and enlarged tonsils, inflammation within the ear, slight injuries to the head, teething (exceptionally, and only when the process is abnormal), rickets, and poor nutrition of any sort. Slight attacks called "petit mal" are precursors of convulsions, and children having them should be treated before they develop into real ones. In these attacks the child stops suddenly and stares straight ahead without moving a muscle. This lasts from a few seconds to a minute, and then he comes to with a start and acts as if nothing had happened. In the more severe kind, the whole body becomes stiff and rigid for a minute and then it is over.

Various
Causes of
Convulsions.

"Petit
Mal."

Treat-
ment of
In-
sions.

When a child is suddenly seized with a convulsion, all is confusion and we are unprepared to do anything for him. It is well, therefore, to have some orderly method of procedure which we may institute at once. (1) Loosen the clothing, but do not take it off except the shoes and stockings. (2) Place the child upon a bed or table with his legs hanging over the edge from the knees down. (3) Put his feet and lower legs into a pail of hot water to which has been added one tablespoonful of powdered mustard, if it is at hand. If there is no mustard, use hot water alone. Be very careful that it is not hot enough to burn. (4) Put an ice cap to the head; lacking an ice cap, use plenty of cracked ice done up in a towel. (5) Give an enema of warm soapsuds. Repeat, if it is not retained. (6) As soon as the child is able to swallow, give a large dose of castor oil. By this time the physician, who has probably been hastily summoned, will arrive and he can give any medical treatment required to prevent a recurrence of the convulsion.

I do not approve of the full hot bath in

unskilled hands because it is apt to cause harm when hastily done. I have seen children get bad burns from such baths, and I have seen them catch cold from being put into the bath with their clothing on and allowed to lie around in the wet clothing afterward. It is usually very difficult to take the clothing off while the child is in the convulsion.

Possible
Danger of
the Full
Hot Bath.

Older children have a towel or spoon handle put between the teeth so that the tongue will not be bitten. Allow the child to go to sleep as soon as possible after the attack. After a child has had more than one convulsion, no matter how long the interval between them, take him to a physician so that the cause may be discovered, and treatment instituted to prevent further attacks.

ACCIDENTS

MANY mothers are not within reach of the doctor when accidents occur. Consequently it is well, especially when starting out on a summer vacation, to be prepared for a few of the most common emergencies. The first thing is to lay in store the following list of

Emergency
Supplies.

necessary supplies: A five-yard package of sterile gauze; half a dozen sterile gauze bandages, assorted widths; a pound of absorbent cotton; a one ounce bottle of tincture of iodine; a bottle of creolin.

Cuts or
Open
Wounds.

In the case of cuts or open wounds of any sort, first stop the hemorrhage where it is excessive; second, prevent infection or blood poisoning by keeping the wound clean. Hemorrhages can usually be stopped by using a piece of sterile gauze held firmly over the bleeding spot or bound tightly over the cut with a bandage. In bad bleeding of the extremities, a tourniquet made of a rope or strip of cloth is twisted tightly about the extremity between the wound and the body until the bleeding has stopped. Where there is little bleeding, the most important thing is to prevent infection. This is done by painting the wound with tincture of iodine which kills the germs that cause the trouble later. Do not touch the wound with your hands or allow anything to touch it. A piece of sterile gauze is then placed upon the wound, and after bandaging, is left un-

disturbed until the wound has healed; or, if gaping open, until the physician can give it further care.

If the skin is unbroken, bruises require *Bruises.* no special treatment except, perhaps, where they are very extensive,—in which event, ice is immediately applied and the injured part allowed to rest for a time.

Fractures or broken bones are worthy of *Fractures or Broken Bones.* our notice here only to call attention to the fact that often in infancy and in childhood they seem to cause comparatively little pain. For this reason, after a child has had a fall, he soon gets over the original hurt and makes no fuss except perhaps when he is undressed, taken up, or handled. If we watch him closely, we will see that he doesn't move the arm or the leg or whatever part is affected. I have had children brought to me three or four days after the accident and I have found that they had a broken collar bone or a broken arm which had gone unnoticed for that length of time.

Nosebleeds, if habitual, are caused usually *Nosebleeds.* either by adenoids or by ulcerations on the inside of the nose. Both of these conditions

should receive their appropriate treatment in order to stop them permanently. The treatment at the time of the nosebleed consists in keeping the child quiet in the upright position, unless he is faint, putting a piece of ice to the back of the neck, and holding the nose firmly between the thumb and forefinger. The latter is done on the chance that the bleeding is caused by an ulceration on the septum of the nose. Blowing the nose is prohibited until all chance of a return of the hemorrhage has gone.

Foreign
Bodies in
the Ear or
Nose.

Foreign bodies, such as beans or pebbles, in the ear or nose should not be too vigorously sought for by the untrained attendant, as sometimes this serves only to poke them farther in or to break them into bits so that the physician has a good deal of difficulty in removing them when it comes his turn to try and get them out. We should also remember that there is no urgent hurry about removing them as they may remain there a number of hours without causing serious harm. However, if there is no physician available, a small steel hairpin may be straightened out and a small hook made of it

by bending one end over sharply ($\frac{1}{4}$ inch). This is then passed up the nose flat against the septum or inner wall and after the hook has passed by the foreign body, it is turned outward, so that it will catch upon the top of the offending particle, and pulled gently down. The same process may be used in the ear, but it is more difficult, and I would not advise it except in case of absolute necessity.

Foreign bodies in the throat, too, are often not so urgent as they at first seem. As long as the child is breathing all right and is not blue in the face, do not do anything to make matters worse. It is marvelous the size of object a child can get into his throat without a great deal of discomfort. I recall the case of a child six months old who had swallowed a silver dollar. His mother was sure he had swallowed it because she had seen it go into his mouth, and had poked at it with a pair of scissors as it was going down. When I got there, the child was in far better condition than the mother, and breathing more regularly. I put in my finger and pulled out a plum, in the form of a silver dollar, that had lodged behind the palate — where she had

Foreign
Bodies in
the Throat.

poked it, I presume. In case the breathing is hard and the child is choking, grab him by the legs and hold him upside down while some one pounds him on the back. If he does not cough the object up and is still blue in the face, put your finger as far back in the throat as you can reach and try to dislodge it.

When
Children
Swallow
"Things."

Children often swallow such things as open safety pins, screws, and coins without its doing them any harm. In due time these objects travel through the stomach and bowels into the world again. Do not administer cathartics, but give the child plenty of coarse food — oatmeal, potatoes, and bran biscuits. In these days of the X-ray machine, it is best to take the child to your doctor, who will locate the foreign body and make sure it is not in a place where it will do harm.

Something
in the Eye.

Foreign bodies in the eye, if they have not penetrated any part of the eyeball, are best removed by pulling the lid away from the eyeball with the finger so that the tears will flow and wash the particle away. Never rub the eye. When the eye ball is penetrated,

you cannot take the child to an oculist too quickly.

There are three degrees of burns. The Burns. first is simply a reddening or inflamed condition of the skin; the second destroys the first layer of the skin, causing blisters; and the third injures the flesh itself. For the reddening or simple inflammation all that is necessary is to relieve the pain, and this may be done by covering the burned part with sweet oil and limewater, equal parts of each. If this is not at hand, sweet oil alone, or even lard or vaseline may be used. A burn of the second degree should be treated just like an open wound, because when the blister breaks, infection, or blood poisoning, may set in if it is not kept perfectly clean. For this reason, it should be entirely covered with a piece of gauze soaked in a weak antiseptic solution, such as a weak boric acid solution. It should then be left alone until seen by a physician. Burns of the third degree, where the flesh is actually destroyed, should be treated in the same way. These are apt to be much more serious and will in all probability leave a scar.

Poisons. Children more often take poisons of various kinds than do adults. As prevention is better than a cure, all poisonous substances and medicines should be kept out of the reach of the child, and not be left where he may get them. Disregarding this rule has caused many a mother regret to the end of her life. Most medicines, if taken in excessive quantities, are poisonous. We should always bear this in mind.

As soon as it is discovered that the child has taken poison, send for the doctor at once, telling him, if possible, what poison has been taken so that he may come prepared for the emergency. It is always well to remember that an antidote for the poison is often printed upon the bottle in which the poison came. This saves time in looking up the treatment. A general principle which it is safe to follow is to make the child vomit at once. Whatever the poison, the sooner it comes up the less harm it will do. If the antidote is known, it may be given before the emetic which is to produce the vomiting, and in some instances repeated after the vomiting. The best emetics are those which are always at

hand in every household. Mustard flour, two teaspoonsful to a glass of water, usually starts vomiting at once. As soon as it is swallowed, the finger is stuck down the throat to cause gagging, so that the child will not retain the mustard long enough to burn the stomach. Another good way to produce vomiting is to give a glassful of strong soap-suds. Sometimes just sticking the finger into the throat after giving a glass of warm water will produce the desired result. Sirup or wine of ipecac, one to two teaspoonsful, is the best emetic of all, but it is not always at hand. A list of antidotes for the various poisons is appended in the back of this book.

BED-WETTING

THERE are many causes of bed-wetting, and it is always well, first, to find the cause before trying to treat the child for this condition. A small percentage of the children who have this unfortunate failing have some organic error back of it. The principal disturbances of this sort are adenoids, enlarged tonsils, and irritation about the genitals, incorrect diet, constipation, and pin-

Causes of
Bed-
wetting.

worms. Although it is necessary to make sure that the bed-wetting child has none of these things, such cases are far in the minority. The vast majority are caused by lack of training in early years. When the child is eight or nine months of age, he should be trained to use the vessel instead of remaining wet. In this way he learns to make the act a voluntary one under the control of his will. It is a lot of work to put the child on the vessel every hour throughout the day, but in the end it saves a lot of trouble. It is surprising how soon children with the help of this training will learn to use the chair. At the end of the first year he will reward his mother by remaining dry all the time. At eighteen months of age, the ten o'clock nursing is usually stopped. This gives the baby a chance to remain dry during the night. If he is taken up when the mother goes to bed, and possibly once more during the night for the first few weeks, he soon learns to keep dry all night long. By two years of age, he should stop wetting the bed altogether.

The Cure
of Bed-
wetting.

How about the older child who has already established the habit of bed-wetting? We

should first make sure that he has none of the organic troubles of which I have spoken. Probably it will be necessary to have him examined by a physician in order to be assured that everything is all right. This attended to, we should proceed in the following manner: (1) Begin with him just as though he were a little baby and put him on the chair once an hour throughout the day in order to get the bladder functions under the control of the will. This is kept up for about two weeks, and then we may lengthen the intervals to an hour and one half for two weeks more. After that, the intervals are increased gradually until he is made to pass his urine once in three hours throughout the day. This is a matter of training and should be rigidly followed for the effect that it has at night. Regardless of the fact that the child may already have good control in the daytime, it teaches him to pass his urine at will. (2) At first he should be taken up three times each night, later twice, then once, and finally not at all after ten o'clock. It is usually advisable to take every child up at nine or ten o'clock at

Importance
of Diet
in Bed-
wetting.

night, until five or six years of age. (3) No liquids should be allowed after 4 P.M. The supper should be absolutely dry, since soups and milk and such things are just as bad as water. This is a great hardship, but it is absolutely necessary. (4) The supper should be a light one, consisting of bread, toast or crackers, with apple sauce or cut fruit, or the little child occasionally may have cereal with butter, to break up the monotony of the diet. The diet throughout the day should be, of course, a sensible one. (5) No tea nor coffee is allowed. They are stimulants that no child should have, but are especially harmful for bed-wetting children. (6) Finally, if this treatment is not successful in breaking up the habit, medicinal measures are necessary, and the physician should be consulted.

Do not
Punish Bed-
wetting
Children.

A child should never be punished for bed-wetting. Most children dislike the habit as much as the parents do, and it is punishment enough for them to wake up wet each morning. The younger the child, the more easy it is to overcome this habit of bed-wetting, and if such treatment is started soon after

the second year, the habit can usually be controlled very easily in a few weeks. After five years of age, it may take months to effect a cure. Children who suddenly acquire the habit of bed-wetting in later childhood always have some organic cause which should be attended to at once. Usually this is some disease of the urinary tract.

Wetting the clothes in the daytime is a still more uncomfortable habit, and it, too, is most often caused by lack of proper training. The same treatment should be used for this condition.

WORMS

THERE was a time when every mother thought that her child had worms whenever he was not in his usual good health, and the doctor laughed at the idea. Now we know that many children do have worms, especially country children and those who drink well water in the summer. Of course, a great many children who have all the symptoms of worms (grit their teeth at night, have a foul breath, and an irritation about the nose which causes them to pick at it, or even have convulsions), simply have indigestion. Any

Symptoms
of Worms.

irritation about the rectum, if unexplained otherwise, is especially significant of pin-worms. The general health of children with worms may or may not be poor. Often, however, they are pale and listless or nervous and irritable. The appetite may be poor, and it is rarely as ravenous as some parents expect it to be. It is not a bad practice to watch the stools of these children. The only

How to Tell
whether or
not a
Child has
Worms.

way we can make sure whether or not the child has worms is to see them in the stools or have the stools examined for the eggs. There are three common varieties: pin-worms, which look like short bits of white thread; roundworms, which are two to six inches long and look like earthworms; and tapeworms, the latter come away in flat segments like a piece of ordinary tape.

Once it is determined a child has worms of any sort, it is useless to dally with a little worm medicine; instead, a regular course of treatment must be instituted, lasting over a number of days or even weeks. This involves diet, as well as medicine, and is too complicated for a work of this sort.

THE NERVOUS CHILD

THERE is no doubt that some children are much more nervous than others. They either come from nervous families and naturally have a nervous disposition, or are made nervous by their surroundings and treatment. Such children must, of course, have different treatment from the placid easy-going child who is never upset by anything. And what do we mean by a nervous child? In the first place, one who is easily upset by a slight cause, or one who is easily frightened, or perhaps a child who cries a great deal on slight provocation. Some children show their nervousness by being afraid of things that ought not to cause fear, and others show their nervousness by having various pains and imaginary ills, just as the hypochondriac adult does. The twitching of a group of muscles is another way that the child has of showing his nervous make-up. These motions are called habit spasms or tics. They are so common that they hardly need description. The child who continually blinks his eyes or shrugs his shoulders or makes any

Different
Ways of
Showing
Nervous-
ness.

Twitching
and Habit
Spasms.

peculiar motion of the body does it more and more often until it has become such a fixed habit that he can only overcome it with great difficulty. Some children even have a nervous cough or rasping of the throat which becomes more and more a habit. It is very important to overcome these things in their beginning because if this is not done, the child grows up to be a nervous adult and has hysteria and various other neurotic tendencies all his life.

The unfortunate part of the whole subject is that the nervous child usually comes by his affection honestly; that is, he inherits a nervous disposition from one or both of his parents, and at the same time being constantly associated with them, he is surrounded by nervous influences. For that reason I have occasionally found it necessary in some of the worst cases, to separate the child from the nervous mother. This may be done by sending the child away to stay with some relative, always being careful to select one who is not nervous herself. In other cases, a nurse may be found who is not of a nervous or excitable disposition. This will answer the purpose

The
Influence of
Nervous
Surround-
ings.

very well if she is allowed to have full control of the child. In still other cases, a mother, once she understands the cause of the child's condition, can be brought to look upon it in a sensible manner, and overcome it herself.

It is impossible to give any one plan of treatment for all nervous children, because each case is different, and each child must be handled with the utmost common sense and tact. There is one rule which applies to all, and that is for those who surround the child never to become excited themselves. Some children can be broken of their nervousness by severe and strict discipline, while others must be humored to a certain extent. They should never be allowed to listen to a recital of their own nervous symptoms, and they should not continually be told that they are nervous. In fact, it is sometimes best to overlook the nervous symptoms altogether. They should be allowed to play with other children of their own age, and not kept by themselves, as is often done. Sometimes in the younger children the nervous symptoms disappear when the child starts to school.

Treatment
of Nervous
Children.

In the older children of the school age, the nervousness may be aggravated by hard study or indoor life. Occasionally, a complete change of surroundings is beneficial. This change of surroundings is far more effective with children than with adults, because children forget more easily. Their curiosity stimulates them to new things more quickly, and old ties are soon cut off.

Many nervous children do not get enough sleep. Sometimes they sleep poorly because of the nervousness and sometimes it is because their daily routine is not a proper one. At the same time, the lack of sleep makes them still more nervous. The diet, also, has a great deal to do with causing such a condition. The strictest diet must be established and maintained. The child who has more or less indigestion, or who does not take plenty of good nourishing food, could only be expected to be nervous.

PART IV

CARE OF THE SPECIAL ORGANS

THE THROAT

THE throat, unlike the eyes, ears, and teeth, is an organ that needs no special local treatment in health. In fact, the use of sprays and applications in the healthy nose and throat is to be deprecated. The healthy throat depends upon the general condition of the child and his mode of life. It is a good practice, however, to accustom the child to a throat examination after he is old enough to understand that it will do him no harm. When he is ill, he then submits to the examination without being upset by it, which sometimes makes a great deal of difference in the outcome of the illness. It is also well for the mother to become familiar with the appearance of the normal throat, so that she may recognize early any acute affection there.

The Value
of Throat
Examina-
tion.

Adenoids and enlarged tonsils are the two chief chronic conditions of the throat that are common in children. Adenoids consist of a grapelike mass of tissue which grows back of the palate in the passage that leads from the throat to the nose through which the air must pass when the mouth is shut. They

Adenoids
and En-
larged
Tonsils.

may be large and completely fill the passage, or they may be smaller so that some air may pass by them. Tonsils are normally in the throat. They are harmful when they are much enlarged or ragged, or are the cause of frequent illnesses.

*Cause of
Adenoids
and
Tonsils.*

We often hear the question asked, "Why do so many children have adenoids and tonsils nowadays? They used to be unheard of." There are two answers to this question. The first is that we live under different conditions than we formerly did. Apartment-house life, steam-heated houses, richer foods, more coddling, and the constant use of nipples or baby comforts, have brought about this condition. The second reason is that children did have them, but they were unrecognized at that time.

*Why
Adenoids
and En-
larged
Tonsils
should be
removed.*

Many an adult carries about with him to-day physical abnormalities which are the result of untreated adenoids and tonsils. Deafness for life is one of them. A deformed narrow jaw and prominent nose with the characteristic open fish mouth is another. How many people do we see in the course of a year who have grown up with

this typical facial expression, when they might have been beautiful to look upon if their throats had been properly attended to in childhood? Upon the question of tonsils the writer feels very strongly, for through his childhood he had three or four attacks of tonsillitis a year which still leave a lasting impression upon his mind and which would have been eliminated had his throat received proper treatment. The tonsils are also the seat of entrance of many other infections besides tonsillitis.

Breathing with the mouth open night or day, snoring at night, restless sleeping, poor nutrition and debility, loss of appetite, nervousness, bed-wetting, impaired hearing, as shown by lack of attention, backwardness in school, seeming stupidity, nosebleed, defective speech, a nasal voice, and frequent colds, — all are symptoms of adenoids.

The only treatment that is of any avail is to remove them. It is sometimes wonderful the immediate improvement following this procedure. As to the age at which this may be done, I would most emphatically say that there is no age limit. I have seen

Symp-
toms of
Adenoids.

Removal
the only
Effective
Treatment

babies four months old who have never done well because of the obstructed breathing during nursing and sleep. The removal of the adenoids caused them to show improvement at once, so that they took the first good nursing of their lives a half hour later, and got fat and strong without delay.

"Do Adenoids Return?" Another question that is frequently asked is, "Do adenoids return?" They sometimes do grow again, but that is no argument against their removal. A child is developing every day of his life, and if the operation gives him only a year, in which he is free of this obstacle to his proper development, just so much is gained. They may be removed again if necessary, but fortunately this is not a common occurrence.

THE TEETH

THE first tooth is awaited with the greatest interest, and let us hope that this interest in those useful and beautifying organs of mastication will not abate as the novelty ceases to be entertaining.

When the
Teeth
should
Appear.

The two lower central teeth come first, at six or eight months; the four upper central

teeth two months later; within the next two months the two other lower teeth appear on either side of their fellows. Taking count, therefore, we have the eight central teeth at a year or a little later. At fourteen to sixteen months come the four double teeth, and at a year and a half the eye and stomach teeth come along to fill in the space that intervenes. There are then sixteen teeth, the full complement with which the child may chew hard food. We may not expect the four other double teeth until two and one half years, when our baby has all the temporary masticators, twenty in number.

We should not worry too much if the teeth do not come along upon schedule time. The breast-fed child is far more apt to have his teeth early and easily, than is the bottle-fed baby, and the children of certain families are prone to early teething, while others get theirs late. Any marked delay or great irregularity of teething may be caused by errors in diet or by nutritional abnormalities. Extreme delay in teething should be looked into, as rickets and other nutritional diseases are particularly apt to cause it.

Delay or
Irregular-
ity in
Teething.

Teething a
Natural
Process,
not to be
Dreaded.

Teething during the summer is often dreaded by the mother, but if her child is properly nourished and well cared for, she need not fear any great amount of disturbance. We are apt to lay everything to teething because it is easier to explain an illness in that way than it is to look into the real cause. We must remember that teething is a natural process, as normal as the development of the bones or muscles or any other part of the body; it is so easy to say a child has this or that "because he is teething." I have had the privilege of observing a great many children during the teething period and it is in the great minority of my cases that I see much disturbance from this cause. This is not invariably true, however. Perhaps a few days' discomfort is experienced and the tooth comes through. However, when the gums are red and swollen and the child is irritable or even sick from the discomfort, we should help the eruption of the tooth by rubbing the inflamed gums with a rough towel. Such a procedure is usually welcomed by the uncomfortable baby and may bring a tooth through far sooner than

it would otherwise have come. Lancing of the gums is occasionally necessary, but when it is done too early, a scar is left which is far harder for the tooth to penetrate than it would have been if we had not meddled.

The eruption of the second teeth gives very little discomfort, which is sufficient proof in my opinion of the theory that the first teeth should come through without much trouble. The molars or back teeth are the first to appear at five or six years of age, before any of the first or temporary teeth have come out. At seven years comes the ugly stage when the front teeth drop out, but the space is soon filled by the permanent teeth. At nine to ten years the temporary double teeth give place to the permanent double teeth, the bicuspids. At twelve years the canines, or pointed teeth, take the place of the temporary ones, and at twelve to fourteen years the next double teeth, or second molars, appear behind those that came at six years. Finally, when the child is a child no longer,—at eighteen to twenty-five years of age,—the wisdom teeth come

The
Appear-
ance of
the Second
Teeth.

along to make up the full set of thirty-two teeth.

*The Care
of the
Teeth.*

The care of the teeth begins as soon as the first one comes through. The softest toothbrush it is possible to get, baby size, is purchased, and the teeth brushed night and morning. Later the brushing is best done after each meal. Tooth powder should not be used, but a mild antiseptic like glyco-thymoline is added to the water. The teeth are brushed up and down, as well as from side to side. Pay as much attention to brushing the child's gums as you do the teeth, as it keeps them in good condition. It is not necessary to pass a thread between the teeth if their contour is good, because nature has made their shape so perfect as to allow no food to collect there. But if they are irregular or have once started to decay, it is of the greatest necessity to use the thread after each meal.

*Causes of
Decayed
Teeth.*

The causes of decayed teeth are three in number: errors in diet, lack of proper cleaning, and disuse, by which I mean the absence of hard chewable food in the diet. The diet should be nourishing and contain the proper

proportions of meat, eggs, vegetables, fruits, starches, and fats. There should be no eating between meals and a minimum amount of sweets should be taken. Cereals and soft, mushy food should not be given to the exclusion of hard food. Bread toasted in the oven, zwieback, hard crackers, are an important part of the dietary, and they should be chewed without moistening so the child can harden his teeth by long chewing. Dogs naturally have exceptionally hard teeth because long use in chewing up bones has made them so. Nature usually arises to the demands put upon it, and I believe the present generation has bad teeth as much from this lack of use as from any other cause. This is not a theory, but a fact that I have put into practice with remarkable results.

When there is a decayed spot, it should be filled at once. The teeth should thereafter be inspected once or twice a year by a dentist. The temporary teeth should not be extracted before their time unless it is absolutely impossible to fill them. Remember that the six-year-old molars are permanent teeth and take special care of them.

The
Importance
of Dentistry.

Brittle teeth are sometimes caused by adenoids. Protruding teeth are most often caused by finger sucking. Irregularity of the second teeth should be attended to by the dentist.

THE EYES

Care of
the Eyes
during the
First Year.

THE first care of the eyes rests with the physician, who puts antiseptics into them to prevent any infection that they may get during the baby's introduction into the world. After that, the nurse washes them out each morning with a clean piece of cotton soaked in a fresh solution of boracic acid, one level teaspoonful to a cup of boiled water. This is kept up during the first year. Any discharge from the eyes should not be tampered with by the mother or nurse. The physician's attention should be called to the condition at once. The vast majority of blind people owe their misfortune to neglect at this time.

Danger
from a
Strong
Light.

Baby, like the moth, seems to be fascinated by a strong light, so he should not be laid where he can stare at one when he is small, nor should the sun be allowed to shine directly into the unprotected eyes. I am not sure

but that this is one factor in the causation of weak eyesight in the children of the present generation.

The next period at which the eyes are called to our attention is at the time the child starts to school. I think it would be a splendid practice if every child had a thorough eye examination by a competent oculist before he began his school life. Any defects of sight would then be discovered and proper treatment instituted at once. Many children appear stupid in school because they cannot see the blackboard, their eyesight being deficient. Headaches are frequently caused by defective vision.

Eye Examination recommended at School Age.

I am sorry to say that not enough attention is paid to the proper lighting of schoolrooms. The light should come in through the windows behind the children so that it shines over their shoulders on to the desk instead of striking them directly in the eyes.

The child who is cross-eyed or has any noticeable defect should consult the oculist early, for during early childhood glasses may remedy a defect which will require an operation later on.

Defective Eyesight.

THE EARS

Washing the Ears. THE ears should be washed daily with boric acid and water. The best thing for this purpose is a small piece of cotton wound about a toothpick. One should never try to wash far into the ear, or put any small object like a hairpin into it to take out the wax or for any other purpose. The ears should not be bundled too much and the thickness of the bonnet, if worn, should not change from day to day. (See "Clothing.")

To Prevent Protruding Ears. Protruding ears, or ears which are doubled over from lying upon them, should be attended to in infancy if we care anything about the child's appearance in later life. When the child is too young to turn over of his own accord, we should see that the ear is flat when he is laid down. Later, when he becomes more active, prominent ears should be kept back tight to the head by a skeleton bonnet made of tape which comes over the ears and ties under the chin. These may be bought at any children's furnishing store.

Defective hearing is first shown by the child's becoming inattentive. I recall the

case of a child three and one half years old who had been irritable and unlike himself for three weeks, although he had seemed otherwise in good health. His mother noticed that he did not mind and sometimes did not pay any attention to her when he was spoken to. Upon being brought to me, I found that he had an inflammation of both eardrums and the hearing was very much impaired by the process. The proper treatment soon remedied the condition. Adenoids are the most frequent cause of impaired hearing in children.

Causes and
Symptoms
of Defective
Hearing.

An acute inflammation or abscess of the ear, if untreated, may leave a child with poor hearing or even entirely deaf. Any symptoms referable to the ear or any discharge from the ear should be attended to at once. Children are very prone to such trouble with the ear. It usually begins with earache, which in the infant is not always easy to diagnose. It is often accompanied by such severe pain that the child gets no sleep at all. He cries night and day until the abscess breaks or until it is lanced. When this pain is not present and the child has

Earache
and Abscess
of the Ear.

fever, loss of appetite and restlessness, nothing but an examination of the ear will locate the trouble. Putting the hand to the ear is not a sign of earache in very young babies, as most mothers think it is. In fact, a child under three years cannot locate pain very accurately.

Best
Treatment
for Earache.

The best treatment for earache is a hot irrigation with two quarts of water from a fountain syringe. This is followed by the application of the hot-water bag until the physician takes charge.

THE SKIN

Keeping
the Skin
in Good
Condition.

IT is a wonder to me that the baby's skin does not suffer more often than it does when we consider that he is wet a certain amount of the time in spite of all the care we may give him. The child's skin certainly is delicate and needs a great deal of care to keep it in good condition. Bathing and the use of castile soap upon the healthy skin keeps it in good condition. The soap should be thoroughly washed off in the bath and a generous application of toilet powder (especially in the folds of his fat little body)

made after the bath and every time we have occasion to dry him. During the hot weather this is more necessary than ever. Strong brown soap used in the washing of diapers and other clothing which comes in contact with skin often causes trouble.

The girl's complexion should be carefully attended to, for what is more delightful than the clear healthy skin of the young! The cold bleak winds of the northern climate make chapping a frequent occurrence, which leaves in its wake a rough coarse skin. Daily applications of cold cream both morning and night will not only give the child comfort, but insure a good complexion as she grows older. Any pimples are usually caused by overeating or some error in diet. This should not be allowed to go on, as the young girl may be marked for life by neglect of pimples when they first appear.

*The Girl's
Complexion*

There is one thing that I never offer an *Eruptions*. opinion upon until I have seen it and studied it myself — and that is an eruption upon the skin. The eruptive diseases may do so much harm that it is not well to take a chance. It is so easy for the mother to say she thinks

it is only a stomach rash or prickly heat. She does not forgive herself easily when she finds out later that it is scarlet fever. Eruptions are often difficult for the well-trained physician to diagnose, so the mother should not expect to become proficient in distinguishing the different varieties herself. My one warning would be not to let any acute eruption go undiagnosed.

**Chronic
Eruptions.**

Chronic eruptions, too, should not be allowed to go on. For instance, an eczema which starts in a fold of the skin may spread over the whole body and be a very difficult thing to treat after it has become so extensive, or even after it has become chronic over a small area. A child with eczema should not have a full bath, because soap and water are very harmful to the inflamed skin, particularly the soap. Eczema is too real an affection to be regarded lightly but it yields readily to the proper treatment in skilled hands.

**Prickly
Heat.**

Prickly heat is due to too much clothing or rough things coming next the skin, which, of course, involves over heating. Dress the baby as coolly as possible and put sodium bicarbonate (cooking soda) into the bath,

a tablespoonful to the gallon of water. Powder the body thoroughly many times a day with talcum powder which has boracic acid added to it, say a couple of teaspoonfuls to the usual one-ounce box of powder.

THE HAIR

GIRLS especially are dependent upon the hair for attractiveness in later life, and since we wish to start our children off with all the physical perfections possible, it is well to devote a certain amount of attention to this "crowning glory."

After the hair has come thick upon the head, it is not well to wet it every day at the bath time. One shampoo a week is sufficient, and if the hair is dry and brittle, once in two weeks is often enough. Castile soap is best for the shampoo, as some of the stronger soaps, while they remove the oil, tend to make the hair break off.

"Shall I cut my girl's hair?" is frequently asked me. If the hair is very thin, it does sometimes make it thicker to cut it; but frequent cutting does often spoil the natural curl in later life. While I do not believe in

Effect of
Cutting the
Hair.

sacrificing comfort and health for beauty, I must admit I admire beauty; comfort can be attained by cutting the back hair a few inches so that the neck will not be too warm. The discomfort from a heated head, moreover, is not very great.

Frequent
Brushing
is Bene-
ficial.

Frequent brushing of the hair tends to make it healthy and vigorous. Taking the snarls out with a comb is ruinous, for it breaks off and pulls out so much that the hair soon looks thin and scraggly. Long hair never need interfere with the sleep as we are sometimes told if it is properly braided and tied out of the way at bedtime.

Milk
Crust in
the Scalp.

During the first year, the scalp is often covered with a coating which is called milk crust. This is a great source of discomfort to the child, and a worry to the mother. It should receive energetic treatment as soon as it is noticed. Stop washing the scalp altogether, for I believe that it is often caused by excessive cleanliness in this direction. The crust should be softened by rubbing in a generous supply of cold cream. After it is all loosened in this way, a soft piece of linen covered with cold cream is used

to remove the crust. Then a fresh application of cold cream is applied and repeated two or three times a day. Each morning clean away any of the crust that has accumulated. If there is much hair, it should be cut close to the scalp. After the condition is cured, be careful not to wash the head too often.

THE GENITAL ORGANS

A GREAT deal of care is necessary in keeping the genital organs of the girl baby free from any irritation. Any inflammatory condition which begins here, not only causes discomfort, but occasionally spreads upward to the bladder and kidneys, thus resulting in a more or less serious condition. The vulva should be carefully washed, at the time of the bath, with boracic acid and a clean piece of cotton. For this purpose never use the washcloth, or the soap and water which is used for the bath. It is also necessary to wash the vulva toward the rectum, so that it will not become contaminated with the matter from the stool. Care should also be taken that the clothing, especially after the girl has become old enough to wear drawers, is not too tight, so

Care of
the Girl's
Genitals.

that these parts will be chafed. Occasionally adhesions are found between the lips of the orifice, where they are joined together above. These are apt to cause the so-called "reflex symptoms," such as restlessness, nervousness, frequent passing of urine, and even convulsions. Any symptoms of this sort call for an examination by the physician, who will separate the adhesions. If at any time the parts look red and irritated, the cause should be looked into, and the proper treatment instituted at once. A frequent cause of such irritation is pinworms, and when they are present, there is apt to be an itching about the rectum as well. If there is any discharge at any time, it should be attended to at once.

*The Boy's
Foreskin.*

The genital organs of boys do not as a rule need so much attention, although it has been more or less of a fad in recent years to regard circumcision as a routine necessity. I believe that the matter has been very much overdone. Every boy is born with the prepuce adherent or glued together, but this does not as a rule interfere with the proper flow of the urine. I do

not believe that nature could go so far astray as to make this condition almost universal if it were a harmful one, and I therefore advise against circumcision or drawing back or stretching the foreskin at birth or during infancy unless symptoms arise which require it. Such symptoms are frequent or painful urination, redness about the orifice or foreskin, putting the hand to the penis or masturbation. Some time during childhood or before puberty, at which age the genital organs mature rapidly, it is well to free the adhesions, so that the foreskin can be drawn back easily. After this has been done, it is necessary to draw back the foreskin and wash the parts thoroughly with a boracic acid solution each day at the time of the bath, and keep them clean the same as you would any other part of the body. The older boys particularly need this care, as any lack of cleanliness permits the retention of the secretions which are apt to form behind the foreskin, and may cause an inflammatory condition, bed-wetting, or even masturbation. The latter is a subject which I have not dealt with in this book

because I think the physician should be consulted frankly and unhesitatingly if the occasion arises.

Un-
descended
Testicles.

The subject of undescended testicles is one which should be touched upon here. If one or both of the testicles cannot be felt in the scrotum, the probability is that they are either in the canal which leads from the abdomen, or they are in the abdomen itself. If they do not cause any pain in such a position, no treatment is necessary during the first year, but after that the physician should be consulted, and the condition remedied by operative procedures if necessary. If there is pain, the matter should receive immediate attention.

Retention
of Urine.

A condition which seems to give the mother a great deal of worry is that of retention of urine. The mother thinks the child does not pass the urine often enough, or perhaps none at all is passed for twelve or even twenty-four hours. This is most apt to occur during an illness of some sort, and it is most frequently due to the small amount of liquids that the child has taken. Naturally when the child does not take the usual amount of

milk or water, there cannot be as much urine eliminated by the kidneys, so that it should not be a real cause of worry. Usually it is not necessary to do anything, but after twelve hours, if no urine has been passed, hot cloths may be placed over the region of the bladder. Probably in one out of a hundred cases that I see where this condition is complained of, there is something the matter other than this, and then the physician should be called.

PART V

FEEDING AND DIET

BREAST FEEDING

THE mother's milk is the only food that was ever meant for a baby during his first year, and any other food is at best a poor substitute. I look upon the breast milk as a true elixir of life. If we knew how to make it and were able to distribute it in its purity, just as it flows from the mother's breast, we could save thousands upon thousands of babies' lives each year. Can you imagine a mother so indifferent to her child's health and life as deliberately to throw away this precious fluid? I am happy to say that I have seen but few. Most of the mothers I meet are glad and anxious to nurse their babies. It is usually lack of knowledge which leads them to loss of this milk. During the first two or three days there does not seem to be much of anything in the breasts, but if we observe carefully we will find that there is a thin watery fluid there. This is all the nourishment the baby requires at this time. Do not give him water (either sweetened or plain), or milk, or anything else. These things give him colic, and when his stomach is full he will not take hold of the nipples. Put him

Every
Mother
should
Nurse her
Baby if
Possible.

to the breast once in four hours whether there seems to be anything there or not.

The Baby's
Health
dependent
upon the
Mother's.

The young mother should first of all guard her own good health for the sake of the baby, if not for herself. She should keep good hours and get plenty of sleep. She should not change her habits too much (if they have been good ones). If she has been accustomed to much walking or other outdoor life, she should not give it up. If she has been used to playing golf or riding, or going about socially, or doing housework, she should not suddenly change her mode of life unless, as I say, if it is for the better. A certain amount of exercise helps the milk in quantity and quality. If the mother has not been accustomed to exercise before the baby was born, she should begin to take a little each day afterward, gradually increasing the amount of exercise, perhaps by walking a little farther each day, but always being careful to stop just short of the point where she gets tired. Fatigue should be avoided. A woman who has led an active society life is apt to become discontented if she gives it up entirely. She should, therefore, not be persuaded to eschew

it altogether. The sleep is apt to be broken by the night nursings so that a nap in the daytime is advisable. At any rate see that the proper amount of sleep is taken.

Nervous, neurotic mothers are not good nurses. The slightest distress upsets them, spoils the milk for the time being, and makes the baby sick. Nursing mothers who are so constituted should try to overcome the tendency and make every effort to lead a quiet, placid life. Fortunately, the more or less athletic mother of the present generation is a far better nurse than was the Jane Austen type of the past generation, and I believe she is the salvation of her race.

The nursing mother's diet is the one thing that seems oftenest to go wrong. Every one she meets tells her of some article of food she should not eat, until, if she obeys all the advice she receives, the poor mother has little left in her dietary which she dares to eat. Each part of the country, too, has different notions about foods that are injurious to mother and child. In one place it is fish, in another fresh vegetables or sour things or sweets. My advice to the nursing mother is

Nervous
Mothers
not Good
Nurses.

The
Nursing
Mother's
Diet.

to avoid all excesses in eating, and, that being done, to eat the food to which she has been accustomed before the baby was born, if it gives her no indigestion. Fish occasionally, and plenty of meat are good milk makers, and fresh green vegetables are a necessity where there is a tendency to constipation. The bowels of the breast-fed baby depend upon the condition of the mother's bowels, as does his general nutrition. Every nursing mother should have at least one good evacuation each day. Usually, unless she is habitually constipated, plenty of fruits and vegetables will remedy any deficiency in this direction. Sour things are harmless except when eaten in excessive quantities. Certain mothers, like all of us, do have idiosyncrasies of digestion, and when they find that any particular article of food disagrees repeatedly with them or with the baby, it should be stopped. The diet should, however, be a general one, avoiding monotony and including the various kinds of food. It should also be a generous one, since the mother has two bodies to nourish instead of one. Three meals a day may be sufficient,

but many women feel the need of a little lunch in the middle of the morning and in the afternoon. If this does not take away the appetite for regular meals, it is a very good thing. Three hearty meals a day are a necessity if the nursing mother expects to have enough milk for her baby; she should neglect neither breakfast, luncheon nor dinner. For breakfast a generous helping of cereal with cream and sugar upon it, beside rolls, coffee (if such is her habit) eggs and bacon. For luncheon a chop or cold meat, potatoes, one vegetable, cocoa (made with milk) rather than tea, and a milk and egg dessert such as custards, ice cream, blancmange, chocolate pudding, corn starch pudding or tapioca. For dinner a creamed soup made with milk, meat, potatoes, vegetables of all kinds and again a dessert made of milk and eggs. Salads may be eaten if one is fond of them but they often have little food value.

Milk may be drunk between the meals or with them, except where it is taken to the exclusion of, or spoils the appetite for other food, or where it disagrees with the stomach or causes constipation. When milk is well

Milk and
Other
Liquids for
Nursing
Mothers

borne, however, it is a great help in increasing a deficient milk supply. Tea and coffee may be drunk in moderate amounts (one or two cups a day) if the mother is accustomed to them. Alcoholic beverages are usually not necessary and often give the baby colic.

The Breast-fed Baby
may have
"a Bottle
or two."

The question often comes up, "Is it advisable to give the baby a bottle or two so that the mother may get a rest or possibly a little recreation from her constant and arduous duties as mother and wet nurse?" Often it is. In the first place, the mother, if she so desires, has some rights to a few hours of freedom from her baby each day. In the second place, it is well to accustom the baby to taking his food from the bottle in case an occasion should arise where it is impossible to feed the baby from the breast. This should be done with the advice of a physician, lest we give a food that is not good for the baby.

Care of the
Breasts and
Nipples.

The breasts and nipples themselves should be well cared for. The nipples should never be touched or handled until the hands have been scrubbed with soap and a nailbrush. The penalty of disobedience of this rule may

be an abscess of the breast. During the first weeks especially the nipples are unaccustomed to the constant moistening and pulling which the baby gives them. The skin is apt to become soft and tender, and when in this condition the breasts are easily infected by the nurse or mother who also handles the stools of the baby. After each nursing, the nipples are washed with a solution of boracic acid and boiled water, one teaspoonful to the pint. They are then thoroughly dried and a large piece of sterile gauze laid over the nipples so that they will not come in contact with the clothing. Corsets should be worn which are either high enough to support the whole breast and taken off while nursing, or low enough so that the breasts are not rubbed and irritated by the upper edge.

When a nipple becomes so tender that nursing is very painful or when there is a crack or fissure in it, the child's mouth should not be allowed to touch it at all. Instead the nipple shield is used. The best kind is made of glass with a rubber nipple on the end of it. The sore nipple should not be moistened with the boracic acid solution, but

Use of the
Nipple
Shield.

instead it should be kept continuously covered with zinc oxide ointment; with this treatment (if begun at the start) the nipple will be healed in a few days and the nipple shield can be discarded.

How often
should the
Nursings
Come?

The quality and quantity of the milk, as well as the condition of the breast, depends also upon the manner and the frequency of nursing. When the child's mouth is put to the nipple, the breast is stimulated to activity by this natural act. For this reason a breast does not secrete as much milk when the breast pump or nipple shield is used, and if either is used for any length of time, it may spoil the milk supply altogether. In the same way a child that is put to the breast every time he cries, not only upsets his own digestion but spoils the milk. The intervals should be regulated, therefore, as soon after birth as it is possible to do so. The question of how often the nursings should come depends upon the size, strength, and age of the baby and upon the quality and quantity of the milk. This is often a question which the physician must decide, but in general a small weak baby should be nursed every three hours

from 6 A.M. until 10 P.M., with one feeding at 2 A.M., making seven nursings in twenty-four hours. A strong fat baby may from birth be nursed every four hours from 6 A.M. to 10 P. M., which with the 2 A.M. feeding makes six in twenty-four hours. At three months of age the baby should, if he has gained in weight properly, even though he was small at the start, be given no more than six feedings a day. At four months, if he is a normal well child, he should not be nursed at all between 10 P. M. and 6 A. M. Above 15 pounds in weight five feedings a day is always sufficient, these feedings coming at 6, 10 A.M., 2, 6, 10 P.M.

WEANING

THE normal infant should be nursed from the breast exclusively till he is seven or eight months of age. At that time every well baby should be given some food from the cup and spoon, so that the stomach may become accustomed to food before the actual weaning takes place at the end of the first year. Weaning from the breast to the bottle before

When
Breast
Feeding
Should be
Stopped.

this age should be avoided if possible. When it is necessary to stop the breast, however, it should be done without any hesitation. There are certain definite indications for such a procedure and they are as follows: (1) Excessive vomiting accompanied by loss of weight, or by stationary weight extending over a period of two weeks or more. (2) A bad diarrhea which cannot be remedied while the baby is breast-fed, and accompanied by loss of weight or by stationary weight extending over a period of two weeks or more. Loose bowels alone, especially when there is a progressive gain in weight and the proper general development, is not an indication for discontinuing the breast. (3) Progressive loss of weight or stationary weight extending over a period of three weeks or more while the digestion seems normal. (In all of these conditions every effort should be made to overcome them while the child remains on the breast. It is important to make sure that these things do not arise from an acute illness of the baby aside from that due to a poor milk supply.) (4) A serious disease of the mother.

In my discussion of breast-feeding it may appear as though I thought that all mothers could nurse their babies if they so desired. I wish that this were so, but it is not. And when shall we know that the baby is not getting sufficient nourishment from the breast? First of all, from the weight. When a breast-fed baby ceases to gain in weight, we look about for a reason. Is he fed at regular intervals? Is he vomiting? Has he any intestinal indigestion, as shown by bad stools? Is the mother's diet a correct one, are her bowels in good condition, and is she paying the proper attention to all the details of the baby's daily routine, including nursing at regular intervals? These things we regulate to the best of our ability and still the baby does not gain in weight. Even then we stick to the elixir of life, the breast milk, and add to this a few bottles of the properly modified milk each day to see if we may remedy the conditions and get a gain in weight and good stools and no vomiting. After a faithful trial of all these things, we bravely step forward and defy nature, or rather the present artificial mode of living, and take

Baby's
Weight is
Best Guide
in Weanng.

up the task of nourishing this baby with as much faith in our success as our experience will allow. It requires a great deal of experience to acquire sufficient confidence in one's self to step in and assume the rôle of nature. Therefore, I would advise mothers and nurses to go slowly without medical advice. After many years' experience in infant feeding, I still find cases that require the utmost resourcefulness to enable me to make some of my babies do well on the bottle.

Milk may
Appear
Insufficient
the First
Few Weeks.

The first few weeks after the baby is born, it may appear as though the breast milk was insufficient, but we must not be too easily discouraged. It is a trying period and conditions are never at their best. The mother has endured the hardships of the labor and she is in bed at least convalescing, if not ill. Where there is any question of discontinuing the breast at this time, we should wait until the mother is up and about and living her normal natural life again before we decide to start upon the bottle. Often the milk supply increases at once when the getting-up time comes. Of course, if there is a continuous loss in weight after the usual loss of

the first three days, this waiting policy should not be adopted. In fact, continuous loss of weight at any period of the baby's life is sufficient reason either to stop the breast or add supplementary bottle feedings. The same may be said of stationary weight extending over a period of two to four weeks.

I would not give the impression that all mothers are able to furnish sufficient nourishment for their babies throughout the first year, for many seem to do well until the latter half of this period, when the milk supply gives out in spite of all we can do.

There are certain conditions arising in the mother when it is necessary to discontinue the breast, for we should have some consideration of her welfare. Any acute illness with fever is apt to spoil the milk supply for a time, as well as to be an extra drain upon the mother's strength, so that it is well to stop the breast while it lasts. If the illness is short, the breast feeding may be resumed upon its abatement. Throughout such an illness the breasts should be pumped out with the breast pump at regular intervals, usually once in three hours. This is to prevent the

When the
Nursing
Mother gets
Sick.

breasts from drying up while the mother is too sick for the baby to nurse her. A chronic disorder of any consequence is an indication for giving up the breast permanently. Tuberculosis, kidney disease, anaemia, epilepsy, grave mental disorders, progressive loss of weight in the mother, and pregnancy all point toward a discontinuance of the breast feedings. The return of menstruation is usually not accompanied by any alteration in the milk supply. It may occasionally give rise to a slight disturbance in the baby's digestion for a day or two, but unless there is a decided and permanent change for the worse in the baby, the breast should not be discontinued on this account.

Teaching
the Baby
Use the
Bottle.

When we have finally decided that the baby must be weaned from the breast, our troubles are not over by any means, for we must then select the proper food and we have got to teach the baby to take his nourishment from the bottle. The bottle and nipple should always be used in a child under eight months of age if the breast is given up altogether, for he cannot at this age get sufficient nourishment from the cup or spoon.

If he has already learned to take the bottle during his breast-fed days, as I have suggested, the task is easy. But if he stubbornly resists all our efforts to give him sustenance in this artificial manner, a struggle is ahead of us. I am often obliged to get a trained nurse for these trying days until he has learned to take the bottle. However, if one is persistent and will not give in to the little fellow, allowing no nourishment in any other way for one or two days, he soon learns. The hole in the nipple should be very large so that the milk will run into his mouth without much sucking until he has learned to work for it.

After seven or eight months it is far easier to wean the baby, because if he has done well up to this time and is strong and well, he may take milk out of the cup, eat cereals and other soft foods. In fact, as a matter of education, it is well to teach the child to drink out of a cup or eat cereals or stale bread while he is still doing well on the breast, by eight months at the latest, so he will take to it kindly when the time comes to wean him. It is extremely rare to find a mother who can

The Proper
Age to
Wean the
Breast-fed
Baby.

nurse her baby after the first year. Mothers often do it, but children who are nursed too long cease to gain in weight, their muscles become flabby, and they soon begin to suffer from rickets, anaemia or some other form of malnutrition. Some of the worst cases of poor nourishment I see in children over a year are due to nursing during the second year.

Bottle
Weaning at
Eight to
Ten
Months of
Age.

Weaning from the bottle should always be gradual if it is begun at about the eighth month. This is the proper age to begin to wean a well-nourished, normal infant. Babies who are very much undersized and who are poorly nourished or have had a stormy career so far as bottle feeding is concerned, often cannot be weaned until the beginning of the second year.

At eight months of age the strength of the mixture should be rapidly increased from two-thirds milk to three-fourths, then to four-fifths milk, so that, by the time the infant is nine or ten months of age, undiluted milk may be given in the bottle. In the meantime the sugar should be gradually decreased so that it is entirely omitted as soon as the undiluted milk is given.

While this is being accomplished, a cereal from the cup and spoon may be introduced into the diet and the infant encouraged to acquire a taste for it. At first enough will not be taken to make an entire feeding, so that it is necessary to finish this feeding with the bottle. The infant should be allowed to take all the cereal he will from the spoon and, after six or eight ounces are taken at one time, the bottle is omitted at this feeding. At nine or ten months of age still another cereal meal may be given and the bottle omitted at that time. In the meantime, a stale piece of bread, zwieback or plain unsweetened cracker may be given in the hand after any or all of the bottle feedings.

The cereal should be made as thick as an ordinary gruel, and, after it is cooked thoroughly, thinned down with milk. It should be salted to taste, but not sweetened. Infants often dislike the gritty taste of farina or cream of wheat, so that it is best to begin with barley, rice flour, arrowroot or strained oatmeal gruel. Later on, farina, cream of wheat, wheatena or oatmeal unstrained may be given and are valuable in

helping the child to acquire a taste for different kinds of foods.

DAY'S SCHEDULE (eventually)

6 A.M.

8-10 ounces of milk from bottle
Zwieback, toast or graham cracker.

8 A.M.

The juice of a whole orange.

10 A. M.

Cereal
Milk from cup
Breadstuffs
Prunes
Follow with bottle if sufficient food is not taken
from cup and spoon

2 P. M.

Cereal
Milk from cup
Breadstuffs
Apple sauce if constipated
Bottle if necessary

6 P. M.

Cereal
Milk from cup
Breadstuffs
Apple sauce if constipated
Bottle if necessary

10 P. M.

8-10 ounces of milk in bottle

THE BOTTLE AND NIPPLES

THE first thing that concerns us when we find we have a bottle baby on our hands is the selection and care of the bottles and nipples themselves. The best bottles are those that are round and cylindrical and have a narrow neck for the attachment of the nipple. The one important requirement is that they have no corners on the inside, being rounded both at the bottom and at the top where the neck begins. This shape of the inside of the bottle enables us to clean it thoroughly. An improvised medicine bottle should never be used, as it is absolutely impossible to clean out the corners. It is best to get as many bottles as there are feedings in twenty-four hours. Also buy a wire bottle rack to hold them when the food is made up for the day. As soon as the baby has taken his feeding, wash out the bottle with soap or washing powder, using a long-handled bottle brush to get it scrupulously clean. Then rinse the soap out with hot water, and put into the bottle a heaping tea-

The Selection and the Care of Bottles.

spoonful of borax. Some warm water is now poured in and the bottle is vigorously shaken until all the borax is dissolved. It is then filled brimming full of water and allowed to stand full of this strong borax solution until the next morning, when the feedings are made up for the day. If each bottle is treated in this way, we have in the morning the whole lot perfectly clean and ready to be filled with the day's feedings as soon as the borax solution has been poured out and the bottles rinsed once with clear water. With this method it is unnecessary to boil the bottles each day and it is a great saving of time and trouble. The bottles should never be allowed to stand unclean or filled with plain cold water or even with cooking soda in them, for borax is the stronger and better antiseptic to use.

The Kind
of Nipples
and how
to care for
Them.

The nipples are important, too. For the little baby we should see that the nipple is not too large or too long. Frequently, a long nipple will gag him and cause him to vomit up the whole feeding just as he has nearly finished it. It is often a very difficult task to get nipples with the right sized

holes. If the baby gets the food too fast, it may cause colic or indigestion or vomiting, so we should select a nipple with one hole in it which will be small enough so that the feeding cannot be taken in less than twenty minutes. It is well to have two or three nipples on hand. When new, they should be boiled once. As soon as the feeding is taken, the nipple should be filled with borax and held under the faucet while it is being rubbed between the thumb and fingers. It is then placed in a cup of water containing one heaping teaspoonful of borax. The nipples should not be boiled out after the first day for frequent boiling spoils the nipples, nor need they be turned inside out when cleaned.

MILK

FRESH cow's milk, properly modified, is the only food for the bottle baby. Nothing else will take its place. But we should endeavor to get good milk. By good milk I mean, in the first place, milk from cows that are free of tuberculosis,—tuberculin-tested cows. The cows should have plenty of air space.

What is
meant by
"Good
Milk"

The hay should not be stored directly above them where the dust may sift down upon the milker, nor should the cows be hayed just before milking, for the same reason. The walls of the cow house should be white-washed two or three times a year. The manure should be stored outside the barn. The floors are best made of cement and washed with a hose, but, of course, this is often impossible for the average farmer. He can, however, sweep the floor each day, sprinkling it first. The cows should be kept clean, the flanks and bag wiped off with a moist cloth before milking. The milker's hands should be washed before milking (it will do them no harm after his day's work). He can slip on a clean duster for this part of the day's work. The milking pails should be clean. The milk is rapidly cooled after milking to at least 45° F. and put in quart bottles that have been boiled or sterilized and tightly covered. The bottled milk should then be kept cool until the milk is consumed.

The
Danger
from
Bacteria.

There is, of course, a reason for all this seeming nonsense. Milk is a splendid food for germs, as well as for babies. If the milk

is dirty to start with, it is swarming with bacteria. If it is allowed to remain warm, these bacteria multiply enormously, so that after a few hours there are as many as five or six million in a cubic centimeter or a quarter of a teaspoonful. This is what makes milk sour quickly. The products of these bacteria are what cause the vast majority of bowel troubles in infants during the summer, and they also cause so-called milk poisoning. Of course, all bacteria are not harmful. To any one who says that the method of producing good milk just described is not practicable, I will answer that the progressive farmer has proven to the contrary. It is to his credit that each day he sends thousands of quarts of perfect milk into New York City and many other cities in this country. This milk has to come up to the standard of the County Medical Society before it is accepted as "certified milk." It is subjected to repeated examinations for bacteria and rejected if the bacteria are found in excess of a stated number. From a financial standpoint it is a paying proposition, as such milk pays him well for his extra work.

Pasteurizing
and
Boiling
Milk.

Pasteurized and boiled milk have been much discussed in the press. By pasteurizing we mean heating the milk to 150°-175° F. This kills most of the bacteria, but gives us a false sense of security, since the milk will soon become as bad as ever if it is not put in clean containers and kept cold just the same as any other milk. Boiled milk is safer. Boiling not only helps to prevent summer diarrhea, tuberculosis and milk born diseases such as diphtheria and scarlet fever, but it makes the milk more digestible. When the milk and water are boiled together actively for three minutes the curds are softened so that they will not form in tough hard masses in the infant's stomach. Cow's milk was intended for the calf, so it must be changed in some way to overcome this difficulty and boiling is the best way to do it. Boiled milk does not cause constipation, rickets nor scurvy when orange juice is given daily, in fact all bottle-fed babies should receive orange juice. Babies who take orange juice well have stronger bones, firmer flesh and rosier cheeks than those who do not. It supplies certain life giving elements which breast

milk contains and which most bottle foods lack. After a baby has been taking the bottle for a month or two and if the bowels are not loose a teaspoonful of orange juice should be given each day. Each week increase the orange juice by one teaspoonful until the baby is getting the juice of a whole orange once a day an hour before a feeding.

Milk from one cow has its disadvantages, because if that cow eats something wrong or gets chased by a dog or what not, the milk is made temporarily indigestible for the baby. On the other hand, the milk from the whole herd would be far less liable to such accidents, and it would be more uniform from day to day. I would, therefore, prefer milk from the herd, if the dairy is well conducted.

Milk from
One Cow
or Herd?

MIXING AND CARE OF THE FOOD

It is far better for the baby and easier for the mother if she takes a certain time each morning to make up the food for the day. She then does not have to think of it again until the next morning. All the utensils for mixing the food are kept in a place by themselves and are not used for any other purpose.

Utensils
necessary
for mixing
Baby's
Food.

The person whose duty it is to make the food should be responsible for their condition and keep them clean, not trusting to any one else. These utensils are not many. A cheap measuring glass, or graduate, holding sixteen ounces and divided into ounces, is a time-saving device, which it is well to have. A wide-necked pitcher that pours well and holds two quarts, a glass funnel which does not fit too tightly into the neck of the nursing bottles, a tablespoon, regulation size, a new enamel saucepan for boiling the water or gruel or food, and a one-quart preserving jar to put the gruel or boiled water away in until it is cold. If gruel is used to dilute the milk, it may be made the night before so that it will be ice cold before it is added to the milk.

*The
Bottles.*

First, the bottles, one for each feeding throughout the day, are attended to. They are all clean and standing full of borax water from the day before. The bottle rack is held over the sink, and the bottles, one at a time, are placed in it upside down to empty the borax water. They are then turned right side up in the rack and filled

with hot water to rinse out the borax and again placed upside down to drain and cool while the food is being mixed.

The previously unopened bottle of milk is then poured into the pitcher so that the cream will be mixed in thoroughly, and then poured back again into the bottle in which it came. Measure the proper amount of milk in the graduate and pour it into the pitcher. Measure out the proper amount of ice-cold water or gruel and pour it into the pitcher. Measure the sugar with the tablespoon and add to the food. If level tablespoonfuls are ordered, level each with a knife. Stir until the sugar is dissolved and the food is done. Using the funnel, pour into each bottle the amount baby is to have at each feeding. Stop up the bottles with clean absorbent cotton and put the rack, full, in the ice chest, directly on the ice if possible; wash up the utensils and put them away for the following day.

And now, when the feeding time comes, all we have to do is place one of these bottles in a pan of hot water, or in an alcohol bottle heater, and the milk is not contaminated by handling. The food should be just body

Mixing the
Food for
the Day

The
Tempera-
ture of the
Food.

temperature when it is fed. It is just as bad to have it too hot as it is to have it too cold. The temperature should be tested by pouring a few drops upon the forearm and never by putting the nipple in one's own mouth, or touching the finger to the food itself. In winter it is well to have a woolen bag or knitted cover, which just fits the bottle, to hold the heat in during the twenty minutes while the baby is feeding.

COMPOSITION AND STRENGTH OF FOOD

BOTTLE FEEDING

I am not so sure but that this part of the book should be left unwritten. I would leave these pages blank if it were not for the many mothers in rural districts who have no physician at all to call upon, or the mothers whose busy doctor frankly states, that, because of innumerable duties and endless responsibilities, he has never had the time to carefully study the intricate subject of infant feeding. A little knowledge is a dangerous thing and if it has taken me and other children's specialists many years to learn to feed successfully

the many different types of babies how can we expect to impart the results of this knowledge and experience in a few pages? My first advice then would be to seek the help of a doctor who is familiar with infant feeding when it is found necessary to put your baby on the bottle. Infant feeding is a science, not guess work, and your experimentation may prove disastrous. As helpful as these books for mothers may be in other respects, I am confident that the chapters on infant feeding have done much harm. Many babies come to me in bad condition who have been fed Doctor So-and-So's formulas as the mother has interpreted them from his book.

There are, however, a few general principles that all mothers should know. To begin with, remember that a little breast milk is better than none. If it is proven beyond a question of a doubt that the breast milk is not sufficient (either in quality or quantity) to nourish the baby properly, give what are called the complementary feedings. By complementary feedings is meant giving the breast at each feeding and completing the feeding with the bottle. As a rule the baby should

get all there is in one breast before the bottle is given. Some babies will nurse on indefinitely, half to three quarters of an hour, whether there is any milk in the breast or not. Others will fuss, cry or draw their heads away or refuse to nurse even before the breast is empty. Nurse your baby 15 minutes from one breast, persisting whether it is wanted or not until that time is up. Follow immediately with the bottle, which should be warmed before you sit down to give the breast. Alternate the breasts at each feeding. The baby will not necessarily take the whole amount that is in each bottle. If he seems satisfied without finishing it do not urge him to take the rest.

Always use simple dilutions of whole milk, water and sugar, never top milk, cream, whey, or fancy feedings. These should be left to the physician if used at all. Before making the food, pour the previously unopened bottle of milk into a clean pitcher and then pour it back into the bottle to mix the cream in thoroughly, make up the food for twenty-four hours as described in Mixing and Care of the Food. Cow's milk is more easily

digested by infants if it is boiled in the following manner:

Measure out the required number of ounces of water, put it into a saucepan and bring it to an active boil. While boiling pour in the required number of ounces of milk and bring to a boil as rapidly as possible, stirring vigorously all the time so that a scum will not form upon the top. Boil actively for three minutes after it has once come to a boil. Take off the stove and stir vigorously for five minutes while cooling. Add sugar.

Pour immediately into clean feeding bottles, using as many bottles as there are to be feedings in twenty-four hours, each bottle to contain the required number of ounces for one feeding when the whole is divided evenly among them. Stop up the bottles with a clean piece of absorbent cotton. Place them in the bottle rack and cool as quickly as possible, in cold running water in the summer time and out of the window in the winter time. It should take no more than ten minutes to get the bottles very cold. Place directly upon the ice until used.

The most important consideration of all

is, of course, the strength of the food, that is, the proportion of milk, water and sugar. Always begin with a weak dilution of milk and water (usually with no sugar at all at the start) and increase the strength very gradually. One third milk and two thirds water is a good safe mixture, say 10 ounces of milk and 20 ounces of water boiled together (without sugar) if this is the proper quantity for the age and weight of the baby. The rapidity with which the strength of the food may be increased depends upon (1) the stools, (2) the vomiting, (3) the weight, (4) the appetite, all of which have been discussed under their respective headings. Usually the milk may be increased one ounce each day up to one half milk and one half water. If the above 10 and 20 mixture is used and the quantity of water remains unchanged the formula will be 20 ounces of milk and 20 ounces of water at the end of 10 days. One half milk and one half water is the maximum strength for babies under three months of age unless they are unusually large and fat for their age. Above that age and above ten or twelve pounds in weight the strength

of the food may be gradually brought up to more than half and half; say 22 ounces of milk to 20 ounces of water, and so on until the maximum is reached as shown in the accompanying table.

In the meantime sugar may be begun and gradually increased to its maximum. Remember that sugar is a laxative and when the stools are loose none can be put in the food. As soon as the stools are firm and smooth like putty or even constipated begin with a small amount of sugar, say one tablespoonful (leveled with a knife) to the total quantity of food for twenty-four hours. Increase the sugar very slowly, for if the stools get loose we must begin all over again. It should be increased only once in three or four days and then only one half or at the most, one tablespoonful at a time. The maximum amount of sugar for the various ages and weights is shown in the accompanying table. Do not hurry too much in increasing either the milk or the sugar. It is safer to go slowly even though the baby is crying with hunger, particularly if he has been previously upset by wrong feeding. Unless breast milk or

TABULATED SCHEDULE FOR FEEDING INFANTS

These are maximum quantities which should be achieved gradually. Always begin with smaller quantities, as described in the texts, and increase the strength of the food slowly.

AGE	WEIGHT (STRIPPED)	MILK	WATER	SUGAR	NUMBER OF BOTTLES	HOURS OF FEEDING
		Lbs.	Ozs.	Ozs.		
3rd and 4th week	6		15	15	3	
	7		16	16	4	
	8		17	17	4	
	9		18	18	4	
2nd month	7		16	16	4	
	8		18	18	4	
	9		18	18	4	
	10		20	20	5	
3rd month	8		18	18	4	
	9		20	20	4	
	10		20	20	5	
	11		22	20	6	
4th month	10		20	20	6	
	11		22	20	6	
	12		24	20	6	
	13		26	20	6	
5th month	12		24	20	6	
	13		26	20	6	
	14		26	20	6	
	15		28	20	6	
6th month	13		26	20	6	
	14		28	20	6	
	15		28	14	6	
	16		30	12	6	
7th month	14		28	14	6	
	15		28	14	6	
	16		30	12	6	
	17		32	10	6	
8th month	15		30	12	6	
	16		30	12	6	
	17		32	10	6	
	18		32	10	6	

After the 8th month and over 18 pounds in weight, cereals and breadstuffs should be given besides the bottle feedings.

some other food is given with the bottle, babies will not gain in weight until the sugar is added. Milk and water alone is not a well balanced food.

The kind of sugar to use is a matter of opinion. I prefer malt sugar (Dextri-Maltose) for the small babies and those that have had difficulties in feeding. Granulated sugar agrees with many babies and milk sugar I use only in exceptional cases. Granulated sugar is twice as strong in food value (when measured in level tablespoons) as malt sugar so when it is used cut the amount in two in the accompanying tables (that is, use half the amount), as the table is made out for malt sugar.

Be sure to observe the following rules with any bottle fed baby:

Feed at the same time each day, exactly upon the hours stated, awakening the baby if asleep, until accustomed to regular hours.

Hold the baby in your lap while feeding, sitting up in the same position as though he were taking the breast. It should take fifteen or twenty minutes to take the bottle. If taken quicker than that a nipple with a

smaller hole should be used. Do not keep taking the nipple out of the mouth to lengthen the time of a feeding. If the feeding takes much longer than fifteen minutes, get a nipple with a larger hole. If the baby does not take all the food in twenty minutes, when the hole is large enough, throw the food away and wait until the next feeding-time before feeding again.

Do not be disturbed if the baby vomits a few mouthfuls after a feeding; even normal breast-fed babies do this.

Do not under any circumstances give castor oil, castoria, milk of magnesia or any other cathartics, unless the baby is suddenly taken ill with a fever. If the bowels do not move at the end of twenty-four hours give an injection of plain water or warm sweet oil, using a baby ball syringe (sometimes called an ear syringe), with a soft rubber tip. When oil is used one ounce is sufficient. It should be allowed to stay up two or three hours if possible. When water is used three or four syringefuls may be required to bring about the movement. Constipation is not harmful to bottle-fed babies who have done poorly,

but is, in fact, much welcomed, while stools which are loose are very injurious.

Bottle-fed babies over two months of age who have been well started and the food properly increased to the maximum must always have orange juice. Begin with one teaspoonful once a day, one hour before a feeding. As the baby gets older increase the orange juice a teaspoonful at a time, up to the juice of a half or a whole orange a day.

During the first week a baby's digestion will not stand enough food to make him gain and we should not expect it of the bottle-fed baby. Therefore the rules given above do not apply to him. Occasionally it is necessary to feed a baby on the bottle from the start, through illness of the mother or because there is absolutely no breast milk. In starting his food, make it very weak at first and work up a little each day, until by the middle or end of the second week the food is strong enough to make him gain. On the second or third day make the twenty-four-hour quantity of food with three ounces of milk and twelve of water (boiled)—no sugar. The next day give him four ounces of milk, twelve

Food for
the New
born Baby.

ounces of water, one teaspoonful of sugar; the next day five ounces of milk, twelve ounces of water; and so on. Each day increase the food by adding one more ounce of milk until by the tenth or fourteenth day the baby is getting food of the proper strength for his weight. In the meantime the sugar should be gradually increased also, one teaspoonful at a time, until the proper quantity is reached as indicated in the tabulated scheme of feeding. It is usually best to add one more level teaspoonful every other day. It is well to bring the milk and water rapidly to an active boil, stirring vigorously so that a scum will not form upon the top. This boiling makes the milk more digestible, and should be continued throughout the bottle period. The sugar is not added until the food is boiled and taken off the stove.

Food for
Babies
who have
not done
well.

The gradual increasing of the food, as described in the paragraph above, also holds good in babies of any age who are fed by this system of feeding for the first time, or those who have not done well on other foods, although it is not necessary to make the food

so weak at the start for older babies, and it may be increased more rapidly. It is usually well to begin older babies with one third milk and two thirds water, boiled after mixing. No sugar is added to the food until the stools appear well digested and vomiting has ceased or improved greatly. When the baby's digestion improves, as shown by the vomiting and stools, the strength of the milk should be increased by adding one or two ounces more of milk, and one or two ounces less of water each day, until he is getting milk of the proper strength for his age and weight. The sugar is also begun at the same time, adding at first only one teaspoonful and increasing it each day, a teaspoonful or two at a time, until the proper quantity is reached for the age and weight as indicated in the accompanying table. Remember a child may not gain who is overfed. He is also apt to have diarrhea and vomiting. Remember, also, that sugar will cause diarrhea, undigested stools, or vomiting, and that some babies will stand more of it than others. That is why it is best to stop all sugar temporarily when these symptoms appear. The

food should be boiled also, as described in the paragraph above.

Proprietary or patent foods are not necessary for any baby. I believe that there is no virtue in the foods themselves, and any babies that I have ever seen who have done well on the proprietary foods have done so on account of the sugar or carbohydrate in the food and on account of the cow's milk which the mother adds to it. There is no mysterious lifegiving property about them. Most of them are made up of starches and the various kinds of sugars and some of them have dried milk or egg added.

FOOD FOR TRAVELING

BABIES really should not travel at all, but they often have to. However, the necessity should be very great to take a bottle-fed child on a long journey, especially if he has had any difficulty with his feedings. Each spring, particularly, I am busy instructing mothers how to prepare the food for a longer or shorter journey. If it is practicable, a traveling ice box with a wicker cover may be carried and good milk carefully

prepared will last forty-eight hours in this, the ice being replenished constantly. Where this is not advisable, the food, after it is made, but before the sugar is added, is boiled for at least ten minutes. It is then put into preserving jars which have been boiled with the cover and rubber, and which are still piping hot when the boiling food is added, and the jars are sealed. This will last forty-eight hours, if cooled immediately and kept cold throughout the journey. The Walker-Gordon Milk Laboratories make a specialty of putting up milk for traveling. The milk is prepared all ready for the baby to take in any strength or combination desired, and will last throughout a journey of six or seven days.

Dry milk is the very best food for traveling as well as being the very best possible substitute for fresh cow's milk where good milk is not available. In fact, some babies digest dry milk better than any of the milk mixtures mentioned in the previous chapter. It may be used, in fact it makes a very good food throughout the bottle period.

The food should be mixed immediately

before each feeding as dry milk will not keep long after it is dissolved. Measure out the required number of tablespoonfuls of dry milk, leveled with a knife but well packed into the spoon as it is light and flocculent. Put this into a measuring glass and pour the required number of ounces of hot water over it. Stir until dissolved thoroughly. The water should be almost at the boiling point. If the milk does not dissolve properly it is because the water is either too hot or too cold. When barley gruel is added, it may be made up for the whole day and added after the solution of dry milk and water is mixed. After mixing pour into the feeding bottle and cool to blood heat under the cold water faucet.

When first using dry milk begin with a small quantity and gradually increase it just as you would any other food. Begin perhaps with two tablespoonfuls of dry milk to four or five ounces of water and increase it up to a tablespoonful to the ounce of water. A small infant needs about three tablespoonfuls per pound weight per day. That is, a seven pound baby would need twenty-one

tablespoonfuls per day. If this were divided into seven feedings it would give at each feeding three tablespoons of dry milk (leveled with a knife) to three or four ounces of water. An older, larger and fatter baby needs less than this. For instance, a baby weighing fifteen pounds might require only two and a half tablespoonfuls per pound per day which would be thirty-seven tablespoonfuls in twenty-four hours. If this were divided into five feedings, provided the baby were on a four-hour schedule, that would give a little over seven tablespoonfuls in eight ounces of water in each feeding.

DIET AFTER THE FIRST YEAR

THE second year is the most difficult feeding period of childhood. All children in their second year may be divided into three classes: Those who won't eat anything; those who eat everything they shouldn't; and those who have their diet regulated for them at the cost of much patience, care, and thought on the mother's part. It is for you to choose under which class your baby will come, for it is within your power to regulate

Three
Classes of
Children.

his diet and lead him toward a life of bodily health and happiness. Help him to form a taste for the proper kind of food and he will enjoy eating things that are good for him as much as he will those that are injurious.

Do not
tempt the
Child with
Things he
should not
Eat.

A child that does not want to eat solid food at this age is generally overfed with milk, or perhaps he is allowed to nibble on crackers, or bread, or cake all day long, or perhaps have a drink of milk whenever he is thirsty. Eating between meals is not permissible. A child who eats things he shouldn't is taught to do so by giving him a taste of this or a taste of that from the table where he is allowed to eat with the family. I think it is only fair to the child not to set before him things which he is not allowed to eat. If he comes to the table with the adults, they should themselves forego some of the pleasures of the palate. A good compromise is to allow the child to come to the table for breakfast and luncheon, which may be simple meals such as he can eat, and to give him his supper by himself at 5 or 5.30 o'clock.

After the first year, we may divide the feeding of children into two periods, which, of

course, gradually merge one into the other. These are the weaning period, from nine or ten months to eighteen or twenty months; and the period of from eighteen months to two years, when three meals a day are sufficient. The weaning period begins when we first begin to feed baby from a cup or spoon in order to teach him to eat, and it lasts until he has all his teeth, which is usually at eighteen months. At eight months baby is given a drink of milk from the cup once a day before a nursing. A little later we try a well-cooked cereal with some milk upon it, but no sugar, just to teach him to eat cereals. Still later we vary his training by giving him a piece of dry bread crust or crackers or zwieback, just before a nursing time, so he may learn to eat solids. It is very important that the child should learn to drink milk at this time, because if he does not he may dislike it all his life. It should be offered to him day after day until he has acquired a taste for it.

The
Weaning
Period.

The Baby's
First Lesson
in Eating.

When introducing a new food into the diet, begin with very small quantities, just a taste at first and gradually increase the amount.

If any new article of diet seems to disagree, it is usually well to persist in giving it in small amounts. It is well to remember that the stools are colored at times by the vegetables that are given. For instance, it is not at all uncommon to see the green spinach in the stools nor the yellow of carrots. This is no contraindication to giving these vegetables.

Diet from
Ten to
Thirteen
Months of
Age

At ten months of age the child should be having three meals a day in addition to its two bottles. These meals should be as follows:

6 A. M.

8 ounces of milk from bottle
Breadstuffs

9 A. M.

Juice of a whole orange

10 A. M.

Cereal
Milk from cup (8 ounces)
Breadstuffs
Apple sauce or prunes
Finish with bottle if sufficient food is not taken

2 P. M.

Give at first small baked potato with salt and a little milk if the baby likes it moistened. In a few

days if it agrees with the baby a large baked potato may be given at this meal. In a few days begin a vegetable besides the potato, either carrots, spinach, green peas, string beans or asparagus tips. It is best to start with the spinach. A teaspoonful or two only is given at first and the amount gradually increased up to one or two tablespoonfuls. Vary the vegetables from day to day.

Breadstuffs

Milk from cup

Apple sauce or prunes if constipated.

6 P. M.

Cereal

Milk from cup

Breadstuffs

Apple sauce, baked apple or prunes

Follow by bottle if necessary

10 P. M.

8-10 ounces of milk in bottle

One quart of milk a day should be taken

At fifteen months of age an egg may be added to the diet. Before this time the child has become accustomed to the vegetables so that a fairly large quantity can be taken. Vegetables contain iron which is much needed at this period.

Raw fruits such as scraped apple, pear, peach or an orange may be given between meals, particularly if there is a tendency toward constipation.

By fourteen or fifteen months of age, at most, the child's bottle feedings should be

Diet at
Fourteen or
Fifteen
Months of
Age

cut down to one, and three meals a day should be given. The feedings may be given in the following order:

6-7 A.M.

Orange juice

7-8 A. M. Breakfast:

Cereal (with milk but no sugar on it, cooked at least three hours). Vary cereals each day with oatmeal, Quaker Oats, rice, cream of wheat, wheatena, farina, pettijohn, hominy, cornmeal mush and Ralston's food.

No ready cooked cereals.

Milk from the cup (all baby will take)

Breadstuffs

12-12.30 P. M. Dinner:

Vegetables: Baked potato and one other vegetable each day, carrots, spinach, string beans, green peas or asparagus tips.

Egg: Coddled (Cooked in this way the white is soft and jelly-like and the yolk somewhat set). Give only a few teaspoonfuls at first and gradually increase the quantity until at the end of a week or so one egg is taken every other day. The following week give one egg each day at this meal.

Milk from cup

Breadstuffs

5 P.M. Supper:

Milk from cup

Breadstuffs

Cooked fruit: Apple sauce, baked apple or prunes

10 P. M.

Milk : 8 ounces of milk in a bottle

At least one quart of milk should be taken in twenty-four hours, but none between meals.

At one and a half years the child may have the simple milk and egg desserts added to his diet. The meals are now cut down to three a day and should be given as follows:

Diet at
One-and-
a half
Years of
age.

7-8 A. M. Breakfast:

Cereal (cooked at least two hours, with milk but no sugar on it). Vary the cereals each day with oatmeal, Quaker Oats, Scotch oatmeal, cream of wheat, wheatena, farina, pettijohn, hominy, rice, cornmeal mush and Ralston's food. No ready-cooked cereals.

Milk

Breadstuffs

Egg: (coddled) should be given at breakfast only two or three times a week at first, and later can be given every morning.

Bacon: (Cut very thin like Beachnut Bacon and cooked dry enough to eat with the fingers. Occasionally crumbled in the egg for variety's sake).

12-12.30 P. M. Dinner:

Vegetables: Baked potato and one other vegetable every day; vary with green peas, string beans, asparagus tips (all canned when out of season), carrots, spinach and tender young beets thoroughly mashed.

Dessert: Apple sauce, baked apple, prunes (all cooked with the minimum amount of sugar), cut

oranges and grapefruit, occasionally custard, junket, rice pudding, bread pudding and tapioca pudding, all made without too much sweetening.

5-5.30 P. M. Supper:

Milk (all the baby will take)

Breadstuffs

Fruit: Apple sauce, baked apple, prunes, cut fruits such as oranges, grapefruit, scraped apple, pears, peaches, plums, apricots when in season. (It is not harmful to give fruit at the same meal with milk).

Diet at two years of Age. At two years the child may have meat added to the diet.

Breakfast:

Cereal (with milk but no sugar, cooked at least two hours): Vary cereal each day. No ready cooked cereals.

Milk

Breadstuffs

Egg: Soft boiled, coddled, poached, scrambled (scramble in a saucepan over a low fire with milk but no butter).

Dinner:

Meat: Vary each day, giving lamb chop, steak, Hamburger steak, roast beef, lamb or veal (roasts either hot or cold), all cooked rare; chicken (boiled, roast or broiled)

No thickened gravies

Fish (once a week): Baked or boiled

Vegetables: Potatoes baked, boiled or mashed

At least one other vegetable each day, green peas, string beans, asparagus tips, small lima beans (all canned when out of season), beets, carrots, spinach, cooked celery, lettuce and raw celery, but no other uncooked vegetables.

Dessert: Apple sauce, baked apple, stewed rhubarb, prunes, cut oranges and grapefruit. (Occasionally custard, junket, rice pudding, bread puddding and tapioca pudding, all made without too much sweetening).

Supper:

Milk or cocoa (made with milk and very little sweetening). Creamed soups (made with milk but not much butter): Potato, dry pea or bean, green pea or lima bean, asparagus, celery, corn (strained), tomato (very little tomato in it). Clear meat broths only occasionally as they do not contain much nourishment.

Fruit: Apple sauce, baked apple or prunes. Raw fruit such as grapefruit, apples, pears, peaches, plums, apricots and berries in season when very ripe and sweet. If fruits are cooked very little sugar should be used.

Bread should never be given when it is fresh or soft. It should be stale enough to crumble. It is best cut in squares and put into the oven until it is brown and hard all the way through. Do not give it this way all the time, for the monotony soon sickens the

Kinds of
Bread to
Give.

child of it. Vary the kinds of bread with white bread, whole wheat bread, graham bread, rye bread, and bran biscuits. Crackers are also a good addition to the starchy foods. Hard-tack, soda crackers, oatmeal crackers, graham crackers, egg biscuit, rice and arrowroot wafers, with an occasional sweetened cracker for dessert at supper, are allowable. Never give hot bread, hot muffins, doughnuts, griddlecakes, or waffles.

The Place
of Cereals
in the Diet.

Cereals are good for the child, but one cereal meal a day is enough, and that is best at breakfast. Cereals may be cooked in milk or water. They should always be well cooked; fifteen minutes over the direct fire followed by 3 hours in the double boiler. Undercooked cereals are the source of much stomach disturbance. It is therefore well to cook them the night before, as they are apt to be underdone when hastily cooked for breakfast. Cream of wheat, rolled oats, wheatina, farina, gritz, cornmeal mush, rice and hominy, are all healthful. Teach the child to eat them without sugar, but with plenty of milk and no cream, and he will like them just as well as though they were sweetened. In the

[redacted] food at the morning [redacted] way the appetite for the [redacted] in the second place it is [redacted] to like the cereals for [redacted] so-called ready cooked [redacted] served for children over [redacted]

Vegetables supply the Necessary Iron.

[redacted] necessity in the diet because [redacted] element they supply and [redacted] iron they contain. Babies [redacted] enough iron stored in the liver [redacted] the first year, for a mini- [redacted] supplied in the breast milk [redacted] So we begin early with the [redacted] vegetables must be well cooked, [redacted] or mashed, but never [redacted]

One other vegetable [redacted] the hearty midday meal [redacted] beans, string beans, spin- [redacted] ragus tips, beets, well- [redacted] fish, and boiled parsnips, [redacted] staples. Children should [redacted] cabbage, cauliflower, onions, [redacted] tomatoes, lettuce, celery, tur- [redacted] until after the second [redacted] vegetables should always [redacted]

be cooked until they are soft, and mashed fine with a fork.

What
Meats to
give and
how to
cook them.

Meat is given sparingly at first. A tablespoonful of rare beef scraped with a fork is thoroughly mixed into the potato for the first week or two, during the third year. The quantity is gradually increased and the variety extended during the next month or two. The meat should always be cooked rare and not boiled, except chicken. It should be cut up very fine and mixed with the potato until it is well taken and borne. The meats a child may eat are: beef — roast, broiled, or chopped Hamburger fashion; lamb — roast or chops; chicken — roast, broiled, or boiled; veal — roast or broiled; fish — boiled; bacon — cooked dry and eaten in the fingers at one and one half years. Never give pork, ham, sausage, liver, tripe, or thickened gravies.

Eggs.

Eggs should be given boiled, coddled, dropped in water, and, after two and one half years, hard boiled. The whites should be soft and jellylike instead of tough and leathery. In order to do this, put them into cold water, and place them upon the stove until

While this is being accomplished, a cereal from the cup and spoon may be introduced into the diet and the infant encouraged to acquire a taste for it. At first enough will not be taken to make an entire feeding, so that it is necessary to finish this feeding with the bottle. The infant should be allowed to take all the cereal he will from the spoon and, after six or eight ounces are taken at one time, the bottle is omitted at this feeding. At nine or ten months of age still another cereal meal may be given and the bottle omitted at that time. In the meantime, a stale piece of bread, zwieback or plain unsweetened cracker may be given in the hand after any or all of the bottle feedings.

The cereal should be made as thick as an ordinary gruel, and, after it is cooked thoroughly, thinned down with milk. It should be salted to taste, but not sweetened. Infants often dislike the gritty taste of farina or cream of wheat, so that it is best to begin with barley, rice flour, arrowroot or strained oatmeal gruel. Later on, farina, cream of wheat, wheatena or oatmeal unstrained may be given and are valuable in

helping the child to acquire a taste for different kinds of foods.

DAY'S SCHEDULE (eventually)

6 A.M.

8-10 ounces of milk from bottle
Zwieback, toast or graham cracker.

8 A.M.

The juice of a whole orange.

10 A. M.

Cereal
Milk from cup
Breadstuffs
Prunes
Follow with bottle if sufficient food is not taken
from cup and spoon

2 P. M.

Cereal
Milk from cup
Breadstuffs
Apple sauce if constipated
Bottle if necessary

6 P. M.

Cereal
Milk from cup
Breadstuffs
Apple sauce if constipated
Bottle if necessary

10 P. M.

8-10 ounces of milk in bottle

THE BOTTLE AND NIPPLES

THE first thing that concerns us when we find we have a bottle baby on our hands is the selection and care of the bottles and nipples themselves. The best bottles are those that are round and cylindrical and have a narrow neck for the attachment of the nipple. The one important requirement is that they have no corners on the inside, being rounded both at the bottom and at the top where the neck begins. This shape of the inside of the bottle enables us to clean it thoroughly. An improvised medicine bottle should never be used, as it is absolutely impossible to clean out the corners. It is best to get as many bottles as there are feedings in twenty-four hours. Also buy a wire bottle rack to hold them when the food is made up for the day. As soon as the baby has taken his feeding, wash out the bottle with soap or washing powder, using a long-handled bottle brush to get it scrupulously clean. Then rinse the soap out with hot water, and put into the bottle a heaping tea-

The Selection
and the
Care of
Bottles.

est part of the pulp will not be swallowed. Cut the orange in half and dig out the soft part as well as the juice. An apple can be most easily scraped if it is cut in half with the skin on, and the core dug out with a spoon. The skin then makes a cup out of which the rest of the apple is scraped so that there are no hard pieces whatever.

DIET FOR SICK CHILDREN

As a rule I do not believe that sick children ought to be made to eat things that are distasteful to them. It is no time to teach the child to cultivate a taste for any article of food, when he is ill. Another mistake that is often made, is to try to force sick children to eat. Occasionally, especially during a prolonged illness, this is necessary, but as a rule it is not. Still another error that is apt to occur, is in allowing the child to drink large quantities of milk at irregular intervals during the illness. Especially if there is any fever, the thirst is apt to be excessive and milk is taken in place of water to quench the thirst. It is a very good idea to stop the

holes. If the baby gets the food too fast, it may cause colic or indigestion or vomiting, so we should select a nipple with one hole in it which will be small enough so that the feeding cannot be taken in less than twenty minutes. It is well to have two or three nipples on hand. When new, they should be boiled once. As soon as the feeding is taken, the nipple should be filled with borax and held under the faucet while it is being rubbed between the thumb and fingers. It is then placed in a cup of water containing one heaping teaspoonful of borax. The nipples should not be boiled out after the first day for frequent boiling spoils the nipples, nor need they be turned inside out when cleaned.

MILK

FRESH cow's milk, properly modified, is the only food for the bottle baby. Nothing else will take its place. But we should endeavor to get good milk. By good milk I mean, in the first place, milk from cows that are free of tuberculosis,—tuberculin-tested cows. The cows should have plenty of air space.

What is
meant by
"Good
Milk "

The hay should not be stored directly above them where the dust may sift down upon the milker, nor should the cows be hayed just before milking, for the same reason. The walls of the cow house should be white-washed two or three times a year. The manure should be stored outside the barn. The floors are best made of cement and washed with a hose, but, of course, this is often impossible for the average farmer. He can, however, sweep the floor each day, sprinkling it first. The cows should be kept clean, the flanks and bag wiped off with a moist cloth before milking. The milker's hands should be washed before milking (it will do them no harm after his day's work). He can slip on a clean duster for this part of the day's work. The milking pails should be clean. The milk is rapidly cooled after milking to at least 45° F. and put in quart bottles that have been boiled or sterilized and tightly covered. The bottled milk should then be kept cool until the milk is consumed.

The
Danger
from
Bacteria.

There is, of course, a reason for all this seeming nonsense. Milk is a splendid food for germs, as well as for babies. If the milk

is dirty to start with, it is swarming with bacteria. If it is allowed to remain warm, these bacteria multiply enormously, so that after a few hours there are as many as five or six million in a cubic centimeter or a quarter of a teaspoonful. This is what makes milk sour quickly. The products of these bacteria are what cause the vast majority of bowel troubles in infants during the summer, and they also cause so-called milk poisoning. Of course, all bacteria are not harmful. To any one who says that the method of producing good milk just described is not practicable, I will answer that the progressive farmer has proven to the contrary. It is to his credit that each day he sends thousands of quarts of perfect milk into New York City and many other cities in this country. This milk has to come up to the standard of the County Medical Society before it is accepted as "certified milk." It is subjected to repeated examinations for bacteria and rejected if the bacteria are found in excess of a stated number. From a financial standpoint it is a paying proposition, as such milk pays him well for his extra work.

lukewarm, and then add one teaspoonful of essence of pepsin, or a junket tablet dissolved in a tablespoonful of cold water. (The junket tablets may be bought at any grocery store.) Stir it just enough to mix the tablet with the milk, then pour it into small cups and allow it to stand until it is firmly jellied. A little flavoring may be added, or often a small amount of sugar, while the milk is heating. Egg junket may be made by stirring in with the milk a thoroughly beaten egg. These eggs add a greater nutrition value to the food.

WATER

Water
more harm-
ful than
beneficial
the First
Few Days.

STRANGE as it may seem, the giving of water to a baby is an important subject and one upon which there have been many false ideas in the past. In some of the leading obstetrical hospitals of the world it is the custom to administer sweetened water to the new-born babe soon after he is born. This has been done for two reasons: first, to give the baby some liquid to prevent loss in weight during the first two or three days when he is not getting much nourishment

from the breast; and second, for the laxative action of the sugar upon the bowels. Now the reasons that this procedure is *not* necessary are also twofold: first, it does not prevent the loss of weight; and second, the newborn babe never has any trouble in having the bowels move if he is let alone. On the other hand, the harm it does is to satisfy the baby so he will not take the breast well, his stomach being filled with sweetened water.

The small amount of sugar water the baby gets from the breast is sufficient until he has learned to nurse vigorously. Then, if he cries a good deal, he may be given a small amount of unsweetened water. If he does not cry, give him nothing except what he gets from the breast. After the flow of milk has set in, he will get sufficient water in the milk itself if the milk supply is right. As for the bottle baby, can you imagine a more foolish procedure than giving him a few teaspoonfuls of water when he is already getting a food which is 90 per cent water? A child who is getting a quart of liquids in twenty-four hours has far more water in proportion to his weight than does the adult.

When
Water may
be Given.

Water for
Older
Children.

But there comes a time when it is well to give the baby water as a matter of education, so that he may learn to take things from the cup and spoon. At six months it is time to begin this training with a few teaspoonfuls. In this way gradually the baby learns to take a considerable quantity so that he is not a stranger to swallowing by any other method than sucking. The weaning is thus made easier.

A breast-fed baby should have unsweetened water from the bottle at least once a day or oftener if he is crying, in order that he may learn to take the nipple in case it is ever necessary to feed him from the bottle in an emergency. The bottle baby may have water whenever he cries any length of time, although he usually does not need much more water than he gets in his food. Especially during the hot summer months is the extra water good for the breast-fed baby. Older children should be offered a drink of water from the cup so that they may form the habit of drinking water. Water should be withheld from the baby that is vomiting continuously, although babies with fever

who are not vomiting should take water freely; the more the better. When food is withheld during a fever water is very desirable.

After eighteen months, the child is put upon a drier diet. He is usually thirsty and drinks a good deal of water of his own accord. If he does not, it should be offered to him at intervals throughout the day.

1

PART VI

LISTS AND TABLES

—

LIST FOR EXPECTANT MOTHER

A fountain syringe.
A bed-pan.
One or two enameled hand basins.
New rubber cloth, one and a half yards wide, two yards long, to protect mattress.
Pile cloth, five yards (for bed pads).
Unbleached muslin, two yards long, eighteen inches wide (for mother's binders).
Plenty of towels.
Absorbent cotton, one pound package.
Braided silk (for tying the cord).
Large safety pins (two dozen).
Fluid extract of ergot, one ounce (bought one week before confinement).
Brandy, two ounces.
Antiseptic tablets (corrosive sublimate), one bottle.
Boric acid, powdered.
Sterile gauze (1 five-yard package).

FOR THE BABY'S BASKET

One pound of absorbent cotton.
Safety pins of assorted sizes.
A soft baby's hair brush.
A powder box containing powder and puff.
Soap and soap box.
One fourth of a pound of boracic acid.
An old soft blanket in which to receive the child after birth.
A couple of soft towels.
A bath thermometer.
Scales.

CLOTHES

Flannel bands	4
Knitted bands	4
Diapers	4 dozen or more
Shirts	6
Petticoats, flannel	4
Petticoats, cotton	4
Slips	6
Socks	6 pairs
Nightgowns	6
Jackets	2
Cloak	1
Hood	1
Mittens	1 pair
Veil	1
Blankets	2

TABLE OF HEIGHT

AGE	HEIGHT
1 month	20½ inches
2 months	21 inches
3 months	22 inches
4 months	23 inches
5 months	23½ inches
6 months	24 inches
7 months	24½ inches
8 months	25 inches
9 months	25½ inches
10 months	26 inches
11 months	26½ inches
1 year	27 inches
2 years	31 inches
3 years	35 inches
4 years	37½ inches
5 years	40 inches
6 years	43 inches
7 years	45 inches
8 years	47 inches

TABLE OF WEIGHT

AGE	WEIGHT
1 month	9 pounds
2 months	10½ pounds
3 months	12 pounds
4 months	13½ pounds
5 months	15 pounds
6 months	16 pounds
7 months	17 pounds
8 months	18 pounds
9 months	19 pounds
10 months	20 pounds
11 months	20½ pounds
1 year	21 pounds
2 years	27 pounds
3 years	32 pounds
4 years	36 pounds
5 years	40 pounds
6 years	44 pounds
7 years	48 pounds
8 years	53 pounds

NUMBER OF PULSE BEATS PER MINUTE

At birth	130 to 150
First month	120 to 140
1 to 6 months	120 to 130
6 months to 1 year	120
1 to 2 years	110 to 120
2 to 4 years	90 to 110
6 to 10 years	90 to 100
10 to 14 years	80 to 90

NUMBER OF RESPIRATIONS PER MINUTE

For the first 2 or 3 weeks	40
During the first year	30
1 to 2 years	about 28
2 to 4 years	about 25
4 to 15 years	20 to 25

TABLE OF POISONS AND ANTIDOTES

POISON	ANTIDOTES
Acid, acetic, hydrochloric, sulphuric, nitric.	An alkali, such as magnesia, whiting, soda, soap, followed by soothing drinks or sweet oil.
Acid, carbolic.	Epsom salts in abundance, soap, no oil; for external burns, alcohol.
Acid, oxalic.	Emetic, followed by lime (as chalk, plaster, whiting) or magnesia, but not by potash or soda; then soothing drinks.
Aconite.	Emetic, followed by digitalis; no pillow under head; free stimulation.
Alcohol (brandy, etc.).	Emetic; cold douche on head; warmth and artificial respiration.
Alkalies (as ammonia, lye, caustic, potash). Ammonia (see Alkalies)	Vinegar or lemon juice, followed by soothing drinks or sweet oil.
Arsenic (Fowler's solution, Paris green, "Rough on Rats").	Emetic; followed by a fresh mixture of the tincture of chloride of iron with calcined magnesia, or baking soda, or water of ammonia; then white of egg, soothing drinks, or sweet oil; castor oil to empty bowels.
Atropine (see Belladonna). Belladonna (atropine).	Emetic; tannic acid freely; cold to head; coffee; stimulants and warmth if needed.
Blue vitriol (see Copper). Carbolic (see Acid).	

Caustic (see Alkalies).	
Chloral.	Treatment as for opium poisoning.
Copper (blue stone, blue vitriol, verdigris).	Emetic, followed by white of egg or milk; yellow prussiate of potash; then soothing drinks.
Corrosive sublimate.	Emetic, followed by white of egg or milk; soothing drinks; tannic acid freely; castor oil to open bowels.
Gas (illuminating gas, coal gas).	Fresh air; artificial respiration; ammonia to nostrils; cold douche.
Hydrochloric acid (see Acid).	
Iodine.	Starch or flour mixed with water, given freely; emetic; soothing drinks.
Laudanum (see Opium).	
Lye (see Alkalies).	
Matches (see Phosphorus).	
Morphine (see Opium).	
Nitric acid (see Acid).	
Nux vomica (see Strychnine).	
Opium (including laudanum, morphine, paregoric, soothing sirups, etc.).	Emetic (often not effective); permanganate of potash in doses of 4 or 5 grains if case is seen early; strong coffee; atropine; keep awake by cold douche to head and back, walking, and artificial respiration.
Oxalic acid (see Acid).	
Paregoric (see Opium).	
Paris green (see Arsenic).	

Phosphorus (match-heads, some roach and rat poisons).

Emetic; then perman-ganate of potash in doses of 4 or 5 grains well diluted; Epsom salts or magnesia to open bowels; no milk or oil of any kind.

Potash (see Alkalies).
Rough on Rats (see Arsenic).

Table salt, followed by emetic; milk or white of eggs.

Silver nitrate (lunar caustic).

Emetic, followed by tannic acid, bromide of potash freely, or chloral.

Strychnine (nux vomica).

Sulphuric acid (see Acid).

Record of Weight the First Year

Name

AGE	DATE	WEIGHT		GAIN
		Lbs.	Oz.	
At birth				
	1 week			
	2 weeks			
	3 weeks			
1 month	4 weeks			
	5 weeks			
	6 weeks			
	7 weeks			
2 months	8 weeks			
	9 weeks			
	10 weeks			
	11 weeks			
	12 weeks			
3 months	13 weeks			
	14 weeks			
	15 weeks			
	16 weeks			
4 months	17 weeks			
	18 weeks			
	19 weeks			
	20 weeks			
	21 weeks			
5 months	22 weeks			
	23 weeks			
	24 weeks			
	25 weeks			
6 months	26 weeks			

Record of Weight the First Year (Continued)

Name

Age	Date	Weight		Gain
		Lbs.	Oz.	
	27 weeks			
	28 weeks			
	29 weeks			
	30 weeks			
7 months	31 weeks			
	32 weeks			
	33 weeks			
	34 weeks			
8 months	35 weeks			
	36 weeks			
	37 weeks			
	38 weeks			
	39 weeks			
9 months	40 weeks			
	41 weeks			
	42 weeks			
	43 weeks			
10 months	44 weeks			
	45 weeks			
	46 weeks			
	47 weeks			
11 months	48 weeks			
	49 weeks			
	50 weeks			
	51 weeks			
12 months	52 weeks			

Record of Weight after the First Year

AGE	DATE	WEIGHT LBS.	GAIN
13 months			
14 months			
15 months			
16 months			
17 months			
18 months			
19 months			
20 months			
21 months			
22 months			
23 months			
24 months			
3 years			
4 years			
5 years			
6 years			
7 years			
8 years			
9 years			
10 years			

Record of Bottle Baby's Food

Date.....	Age.....
.....oz. Milk	Quantity at Each Feeding.....oz.
.....oz. Water	Number of Feedings in 24 hrs.....
.....oz. Sugar	Intervals between Feedings.....hr
.....oz. Total quantity in 24 hrs.	

Bowels		
Number.....	Color.....	Consistency.....
Appetite.....	Sleep.....	Vomiting.....

Date.....	Age.....
.....oz. Milk	Quantity at Each Feeding.....oz.
.....oz. Water	Number of Feedings in 24 hrs.....
.....oz. Sugar	Intervals between Feedings.....hr
.....oz. Total quantity in 24 hrs.	

Bowels		
Number.....	Color.....	Consistency.....
Appetite.....	Sleep.....	Vomiting.....

Date.....	Age.....
.....oz. Milk	Quantity at Each Feeding.....oz.
.....oz. Water	Number of Feedings in 24 hrs.....
.....oz. Sugar	Intervals between Feedings.....hr
.....oz. Total quantity in 24 hrs.	

Bowels		
Number.....	Color.....	Consistency.....
Appetite.....	Sleep.....	Vomiting.....

Record of Bottle Baby's Food

Date..... Age.....
 _____ oz. Milk Quantity at Each Feeding oz.
 _____ oz. Water Number of Feedings in 24 hrs.....
 _____ oz. Sugar Intervals between Feedings hrs.
 _____ oz. Total quantity in 24 hrs.

Bowels

Number.....	Color.....	Consistency.....
Appetite.....	Sleep.....	Vomiting.....

Date..... Age.....
 _____ oz. Milk Quantity at Each Feeding oz.
 _____ oz. Water Number of Feedings in 24 hrs.....
 _____ oz. Sugar Intervals between Feedings hrs.
 _____ oz. Total quantity in 24 hrs.

Bowels

Number.....	Color.....	Consistency.....
Appetite.....	Sleep.....	Vomiting.....

Date..... Age.....
 _____ oz. Milk Quantity at Each Feeding oz.
 _____ oz. Water Number of Feedings in 24 hrs.....
 _____ oz. Sugar Intervals between Feedings hrs.
 _____ oz. Total quantity in 24 hrs.

Bowels

Number.....	Color.....	Consistency.....
Appetite.....	Sleep.....	Vomiting.....

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MEMORANDA

Held Head erect	Date.....	Age.....
Sat up Alone	Date.....	Age.....
Crept	Date.....	Age.....
Walked with Support	Date.....	Age.....
Walked Alone	Date.....	Age.....

Record of Talking

First word, Notable sayings, etc.

Health Record

Date	Nature of Illness
Duration	Attending Physician
Notation	

Date	Nature of Illness
Duration	Attending Physician
Notation	

Date	Nature of Illness
Duration	Attending Physician
Notation	

Date	Nature of Illness
Duration	Attending Physician
Notation	

Teething Record**First Tooth**

2 Lower Central Teeth	Right.....	Left.....
2 Upper Central Teeth	Right.....	Left.....
2 Upper Lateral Teeth	Right.....	Left.....
2 Lower Lateral Teeth	Right.....	Left.....
2 Upper Double Teeth	Right.....	Left.....
2 Lower Double Teeth	Right.....	Left.....
2½ Year-old Double Teeth	{ Upper Right..... Lower Right.....	Left..... Left.....

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